CHLAMYDOPSINAE (COLEOPTERA: HISTERIDAE) FROM NEW CALEDONIA

MICHAEL S. CATERINO

Caterino, M.S. 2006 11 10: Chlamydopsinae (Histeridae) from New Caledonia. *Memoirs of the Queensland Museum* **52**(1): 27-64 Brisbane. ISSN 0079-8835.

Chlamydopsinae are reported from New Caledonia for the first time. Eighteen species are described in *Chlamydonia* gen. nov. One species is placed in *Kanakopsis* gen. nov. The remaining two species are placed in *Chlamydopsis* Westwood, representing the first records of this genus outside of Australia and New Guinea. A number of characters suggest placement of the two new genera near each other (though not as each other's sister group) at the base of the widespread *Orectoscelis/Eucurtiopsis* group of genera. The *Chlamydopsis* species described here do not belong within any of the previously proposed species groups of this genus. Though no specimens of the new taxa have associated host data, trichomes strongly suggest that they are myrmecophilous, like most other Chlamydopsinae.
❐ *Coleoptera, Histeridae, Chlamydopsinae, myrmecophily, New Caledonia.*

Michael S. Caterino, Santa Barbara Museum of Natural History, 2559 Puesta del Sol Rd, Santa Barbara, CA 93105 USA (email: mcaterino@sbnature2.org), 9 November, 2005.

The histerid fauna of New Caledonia has received substantial attention relative to most beetles of most Pacific Islands. In addition to discussions of Histeridae in general works (e.g. Fauvel, 1891), a dedicated analysis of the New Caledonian histerid fauna was published by Wenzel (1955), recognising 19 species from the islands. More recently Gomy (1976, 1982) added 10 to this total. Despite this attention, no previous workers have reported the occurrence of Chlamydopsinae from New Caledonia. The Chlamydopsinae is a subfamily of highly specialised histerid beetles, most of which are believed to live in the nests of ants. Recent collections utilising flight intercception traps have produced specimens representing 21 distinctive, and previously undescribed, species.

The new species represent two or three distinct lineages. Two of the species are assigned to the genus *Chlamydopsis* Westwood, previously known only from Australia and New Guinea (Caterino, 2003). These species, while closely related to each other, do not obviously fit into any of the previously recognised species groups, and are clearly quite isolated in the genus. Nonetheless, phylogenetic analyses including one of these species do place it in the genus (Caterino, 2003; Caterino & Dégallier, unpublished data).

Eighteen of the species form a coherent, and apparently monophyletic group very distinct from *Chlamydopsis*. Superficially, several of these species resemble known species of *Orectoscelis* Lewis and *Eucurtiopsis* Silvestri. However, a number of consistent, shared differences from any other known Chlamydopsinae suggest that this similarity is either symplesiomorphy or convergence, and a new genus, *Chlamydonia*, is established here for them. Relationships of this genus to other Chlamydopsinae have been examined (Caterino & Dégallier, unpublished data), where it is resolved tentatively as sister to the *'Orectoscelis* lineage' (including, additionally, *Pheidoliphila* Lea, *Ceratolister* Reichensperger, *Eucurtiopsis*, *Gomyopsis* Dégallier, and a few others currently being described elsewhere). An analysis of relationships among the species of *Chlamydonia* is undertaken below.

Finally, a new genus, *Kanakopsis*, is described for a single species that appears distinct from either of the above groups and from any other known Chlamydopsinae. As above, this species superficially resembles some species of *Eucurtiopsis*. But various structural differences, particularly of the mouthparts, argue against such a relationship. A larger scale analysis of relationships among chlamydopsine genera in progress (Caterino & Dégallier, unpublished data) places this taxon alone as sister to a lineage comprising *Chlamydonia* and the *'Orectoscelis* lineage'.

Nearly all available chlamydopsine specimens from New Caledonia have been collected by flight intercception trapping (conducted by G.B. Monteith and his colleagues from the Queensland Museum). A few additional specimens were found by pyrethrum fogging of trees and logs, and a single one was collected by Berlese extraction of sifted leaf litter. Thus, there is virtually nothing known of the natural history of these beetles. It is probably a safe assumption that they are myrmecophilous, as are essentially all

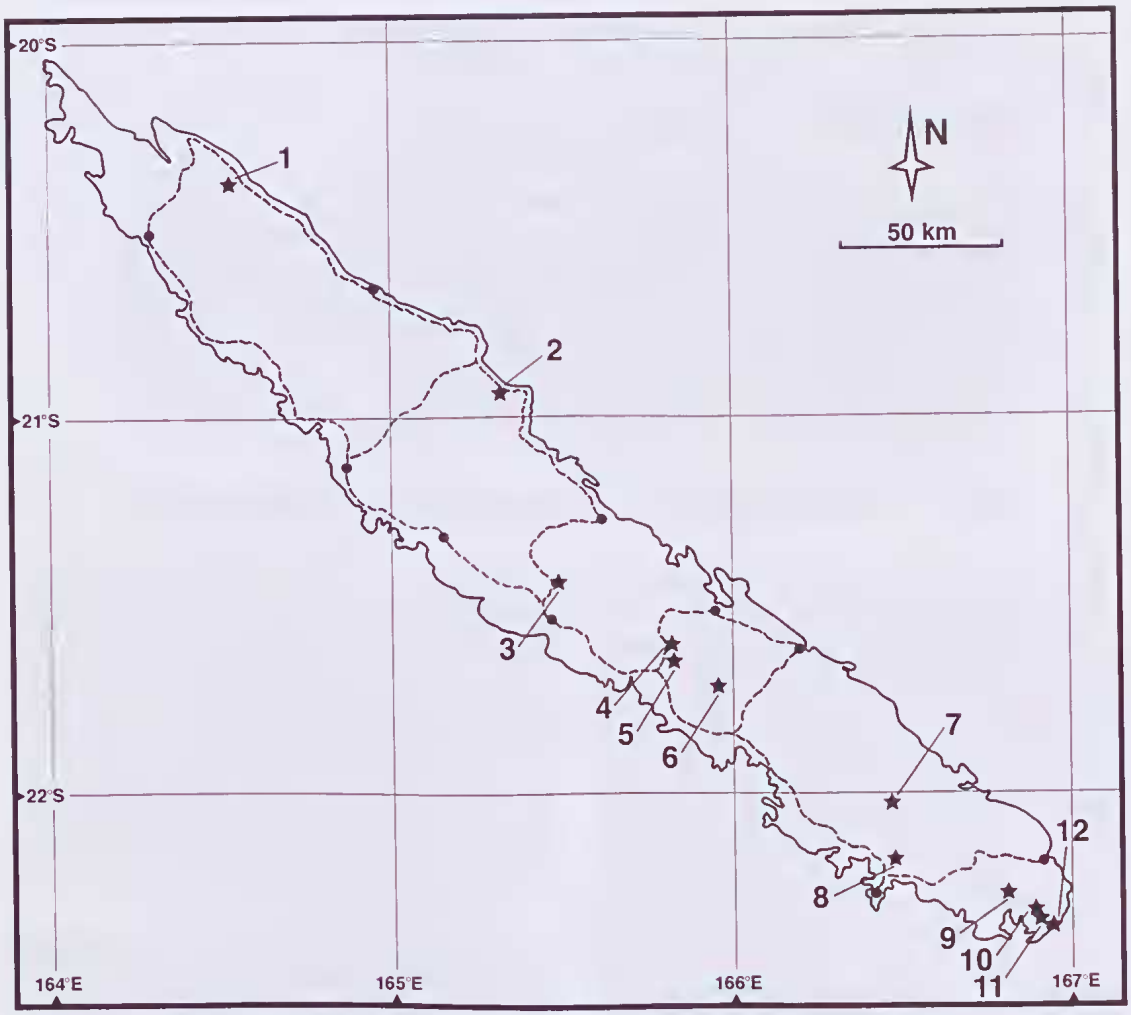


FIG. 1. Map of New Caledonia showing all localities discussed in this paper, numbered as follows: 1. Mandjèlia summit; 2. Pic d'Amoa, north slopes; 3. Col des Roussettes; 4. Col d'Amieu (sawmill); 5. Col d'Amieu (west slope); 6. Mt Do summit; 7. Mt Dzumac Road; 8. Mt Koghis; 9. Pic du Pin (east base); 10. Pic du Grand Kaori; 11. Kwa Ncie (Foret Nord) summit; 12. Port Boisé.

Chlamydopsinae whose habits are known, both for phylogenetic reasons, and because all possess conspicuous trichomes, almost invariably indicative of myrmecophily. The ant fauna of New Caledonia is reasonably well known, with about 40 genera reported from the country (though several of these are represented only by introduced species; Taylor, 1987). Of those considered native, top contenders as possible hosts are *Rhytidoponera* Mayr and *Pheidole* Westwood, with 18 and 5 probable native (described) species in New Caledonia, respectively. These are the predominant hosts of Chlamydopsinae in Australia. However, the ant genera *Camponotus* Mayr, *Dolichoderus* Lund, *Iridomyrmex* Mayr, and *Meranoplus* Smith all have native New Caledonian species and have been reported hosts of Australian Chlamydopsinae, as well. It is also worth noting that all specimens taken by Queensland Museum collectors have also been found in rainforest areas, rather than in the drier, 'maquis' vegetation areas.

METHODS

A number of body dimensions and proportions are useful for species recognition. Following histerid conventions, total body length (L) is measured from the anterior margin of the pronotum to the posterior margin of the elytra, while width

(W) is taken at the widest point, invariably near the elytral humeri. Measurements were made of the holotype where possible, are grouped at the beginning of each description (or diagnosis if no description is presented) to facilitate comparisons, and are abbreviated as follows: L (mm – dorsal length along midline); W (mm – width across humeri); E/PnL (ratio – elytral length/pronotal length); E/PnW (ratio – elytral width/pronotal width); Pn W/L (ratio – pronotum width/length); E L/W (ratio – elytra length/width); Pr/Py (ratio – propygidium length/pygidium length); Sterna – pro,meso,meta (mm – lengths along midline); Tibiae – pro, meso,meta (mm - straight line length from base to apex, ignoring curvature).

Many of the newly described species share type localities. All localities mentioned below are mapped in Figure 1. Colour versions of the photographs can be viewed online at: http://www.sbnature.org/collections/invert/entom/chlamydopsinae/Caterino2006/Caterino2006suppl.htm. Repositories are abbreviated as follows: MNHN: Muséum National d'Histoire Naturelle, Paris; QM: Queensland Museum, Brisbane; CMN: Canadian Museum of Nature, Ottawa; MHNG: Muséum d'Histoire Naturelle, Geneva; MSCC: Michael S. Caterino Collection, Santa Barbara; HNHM: Hungarian Natural History Museum, Budapest. Boldface four and five digit numbers cited with label data for Queensland Museum specimens correspond to that institution's "Sampcodes", sequential lot numbers that link specimens to collections data in the Museum's database.

KEY TO THE CHLAMYDOPSINAE OF NEW CALEDONIA

1. Scutellum small but easily visible, upper surface flush with elytral surface (Fig. 2A); prosternum short, carina-delimited leg depression occupying most of lateral area of prosternum, its anterior margin nearly reaching anterior prosternal margin (separated by less than a tarsus width) in the anterolateral corner (*Chlamydopsis*) 2

   Scutellum minute, reduced, and though generally visible between bases of elytra, never flush with elytral surface (Fig. 2B); prosternum longer, anterolateral corner of proleg depression separated from anterior prosternal margin by at least three tarsal widths (Fig. 8D).....3

2. Elevated lateral margins of pronotum with conspicuous setal fringe; elytra coarsely reticulostrigose, shining (Fig. 3A)..... *Chlamydopsis caledoniae* sp. nov.

   Elevated lateral margins of pronotum without setal fringe; elytra finely reticulostrigose, densely microsculptured, alutaceous, only shining within mediobasal depression (Fig. 3B) ..... *Chlamydopsis baloghi* sp. nov.

3. Body smooth, entirely impunctate (Fig. 7A, B); frons flat, lacking tubercles; epipleuron with a single marginal stria which departs from margin above metathoracic leg; pronotum strongly convex; trichome consisting of a fairly simple, transverse, setose incision ..... *Kanakopsis amieueensis* sp. nov.

   Body with at least pronotum conspicuously, usually very densely, punctate; frons with at least one pair of prominent tubercles, usually 2-3 pairs (Fig. 8A); epipleuron with accessory marginal stria, such that one stria closely follows margin above metathoracic leg and one departs describing its upper arc of motion (Fig. 8B); convexity of pronotum varied; trichome usually consisting of an elongate, variously sinuate setose elevation ..... (*Chlamydonia*) 4

4. Elytra almost entirely impunctate, with at most a few inconspicuous punctures near scutellar region and uppermost edge of trichome (Figs 18, 20) 5

   Elytra densely punctate, in some with small impunctate area within mediobasal depression 8

5. Setal fringe of trichome erect, extremely elongate (Figs 18A, 19A) ..... *Chlamydonia erectipilosa* sp. nov.

   Setal fringe of trichome short, at most suberect, directed mesad (Figs 18B, 19B, 20, 21) 6

6. Uppermost surface of trichome disc impunctate, bearing particularly dense fringe; trichome disc reduced in size, with corresponding enlargement of posterior basal trichome incision, in lateral view posterior opening accounts for as much of elytral length as adjacent 'trunk' of trichome disc (Fig. 21B) ..... *Chlamydonia fauveli* sp. nov.

   Uppermost surface of trichome disc with at least a few obvious punctures near its upper edge; trichome fringe less dense; 'trunk' of lateral surface of trichome disc wider than opening of posterior basal incision behind it (e.g., Figs 19B, 21A) 7

7. Elytra nearly twice as wide as base of pronotum (ratio of elytral to pronotum width ~1.9); trichome extending just behind elytral midpoint (Fig. 18B) ..... *Chlamydonia eucurtiopsoides* sp. nov.

   Elytra relatively narrower (ratio of elytral to pronotum width ~1.7); trichome ending in front of elytral midpoint (Fig. 20A) ..... *Chlamydonia punctinota* sp. nov.

8. Trichome with erect, very elongate setal fringe (Figs 16B, 17B, 26B, 27B) 9

   Trichome with short, suberect or horizontally directed setal fringe 10

9. Setal fringe of trichome confined to basal half of elytron, occurring only along arc of trichome disc (Fig. 16B); sides of pronotum convex, laterally rounded ..... *Chlamydonia stellata* sp. nov.

   Setal fringe of trichome extending from posterior half of small trichome disc posterad along elevated carina to apical one-fourth of elytron (Fig. 26B); sides of pronotum subdepressed, weakly margined along anterior half ..... *Chlamydonia wenzeli* sp. nov.

10. Setal fringe of trichome originating at humeral corner of elytron, extending posterad without interruption along inner edge of trichome disc (Figs 10, 12, 14, 16A, 22A) 11

    Main part of setal fringe of trichome originating distinctly posterad of humeral corner (in most with inconspicuous separate cluster of setae in the anterior corner), restricted to a mesally directed angulate carina about one-third of the way back on elytron (Figs 22B, 24, 26A) 18

11. Trichome with an inwardly directed setal fringe, borne on a carina originating at humeral corner, extending posterad weakly arcuately to about one-third from base, then bending obliquely mesad (Fig.22A); epipleuron with two distinct pits below posterior angulation of trichome (Figs 23A, 28D) ..... *Chlamydonia terapoides* sp. nov.

Trichome with setal fringe borne on a distinctly arcuate elevated disc, which is incised to epipleuron at its anterior and posterior bases (Figs 11, 13, 15, 17A); if a short carina extends posteromesad from inner corner of trichome it is glahrous; epipleuron lacking pits heneath trichome (Fig. 8B) 12

12. Mesal surface of trichome elevation (beneath setal fringe) lacking median fovea, surface convex, solid (Fig. 28A) 13

Mesal surface of trichome elevation with distinct, deep median fovea, generally beneath midpoint of setal fringe, continuous with floor of mediobasal elytral depression (Figs 28B, *C*) 14

13. Elevated disc of trichome larger, width of narrowest part of 'trunk' greater than that of trichome fringe filling posterior incision behind it (as measured longitudinally along epipleuron; Fig. 15B); less densely punctate, with punctures of posterior part of pronotum separated hy nearly their widths, with smooth intervening integument ..... *Chlamydonia inflata* sp. nov.

Elevated disc of trichome smaller, width of the narrowest part of trunk less than that of greatest width of setose area behind it (Fig. 17A); more densely punctate throughout, with posterior part of pronotum deeply and contiguously punctate ... *Chlamydonia densa* sp. nov.

14. Anterior basal incision of trichome with setal fringe interrupted by a triangular humeral projection, isolating a small, circular humeral whorl from inner fringe (Fig. 12A); convexity of outer surface of trichome disc uneven, its epipleural surface convex, becoming weakly depressed dorsad of a poorly defined lateral ridge; texture microgranulate below, and with large deep punctures above this ridge ..... *Chlamydonia gomyi* sp. nov.

Setal fringe of anterior basal incision of trichome not interrupted by basal constriction, continuous; trichome disc varied 15

15. Setal fringe of trichomc moderately elongate, inwardly directed basally, but with apices curving upward and posterad along its entire length, appearing 'unkempt' (Fig. 15A) ..... *Chlamydonia foveata* sp. nov.

Setal fringe of trichome short, all setae directed inwardly to suberect, with apices neat and even 16

16. Trichome elongate, extending fully two-thirds the length of elytron (Fig. 12B) .. *Chlamydonia tjibaoui* sp. nov.

Trichome shorter, extending to or just slightly beyond elytral midpoint (Fig. 10) 17

17. Trichome disc inclined inward at about 45° (in anterior view) ..... *Chlamydonia continua* sp. nov.

Trichome disc more nearly vertical, inclined about 30° off vertical ..... *Chlamydonia sol* sp. nov.

18. Meso- and metatibiae strongly expanded, flattened, outer margin of metatibia in particular, almost evenly rounded, not even bluntly angulate; setose part of trichomc evenly rounded, not outwardly angulate (Fig. 22B), its outer edge elevated .... *Chlamydonia sinuata* sp. nov.

Meso- and metatibiae not broadly expanded, their outer margins bluntly to acutely angulate; setose part of trichome angulate (Figs 24, 26A), outermost edge usually lower than innrr edges 19

19. Epipleuron uniformly, moderately densely punctate (only slightly less densely than dorsum), including within accessory stria; setose angulation of trichome relatively shallow, anterior and posterior edges meeting at an obtuse angle (about 120°; Fig. 24A) ..... *Chlamydonia dzumacensis* sp. nov.

Epipleuron not densely punctate, distinctly less so than dorsum, and area within accessory stria with at most fine sparse punctures; setose angulation of trichome deeper, anterior and posterior edges meeting at approximately 90° (or slightly less; Figs 24B, 25A) 20

20. Epipleuron with deep vertical groove adjacent to apex of inner setose angulation, forming a distinct constriction between anterior trichome disc and posterior elevation (Fig. 27A); posteromedian corner of trichome extended by distinct oblique carina for a distance approximately equal to length of setose portion of trichomc; body with rather dense, but short setae throughout ..... *Chlamydania angulata* sp. nov.

Epipleuron with at most very superficial vertical groove outside setose angulation, not appearing thus constricted; posteromedian elytral carina shorter than setose area before it; body setae longer but sparser ..... *Chlamydonia volans* sp. nov.

Chlamydopsis caledoniae sp. nov.
(Figs 2A, 3A, 4A, 5A, 5C-F)

MATERIAL. HOLOTYPE ♂: NEW CALEDONIA 8910, 22°21'Sx166°58'E, Port Boise (G.Kanua), 22 Nov 2001-29 Jan 2002, G.B. Monteith, FIT trap; in MNHN. PARATYPES: 1 ♀; same data as holotype; in QM.

DIAGNOSIS. This speeies and the following are easily distinguished from other Chlamydopsinae known from New Caledonia by the fully exposed scutellum, relatively small rounded humeral trichomes, short prosternum, and peculiarly thickened protibiae. These two *Chlamydopsis* are similar in basic morphology, but differ markedly in superficial characters. In particular the elevated lateral pronotal margins of *C. caledoniae* bear a dense setal fringe completely absent from *C. baloghi*. The pronotum of *C. caledoniae* is also shorter, more transverse. The reticulations of most body surfaces particularly the elytral dises, are distinctly less dense in *C. caledoniae*, with the ground texture smooth and shining, while that of *C. baloghi* is microsculptured and dull. Most of the surface of *C. caledoniae* bears sparse but conspicuous flattened setae; the body of *C. baloghi* bears only minute fine setae (apart from fringe of trichome.) Additionally, at least in the Type specimens, these differ somewhat in color, with *C. caledoniae* much darker, near black, whereas *C. baloghi* is distinctly rufescent (and not obviously teneral).

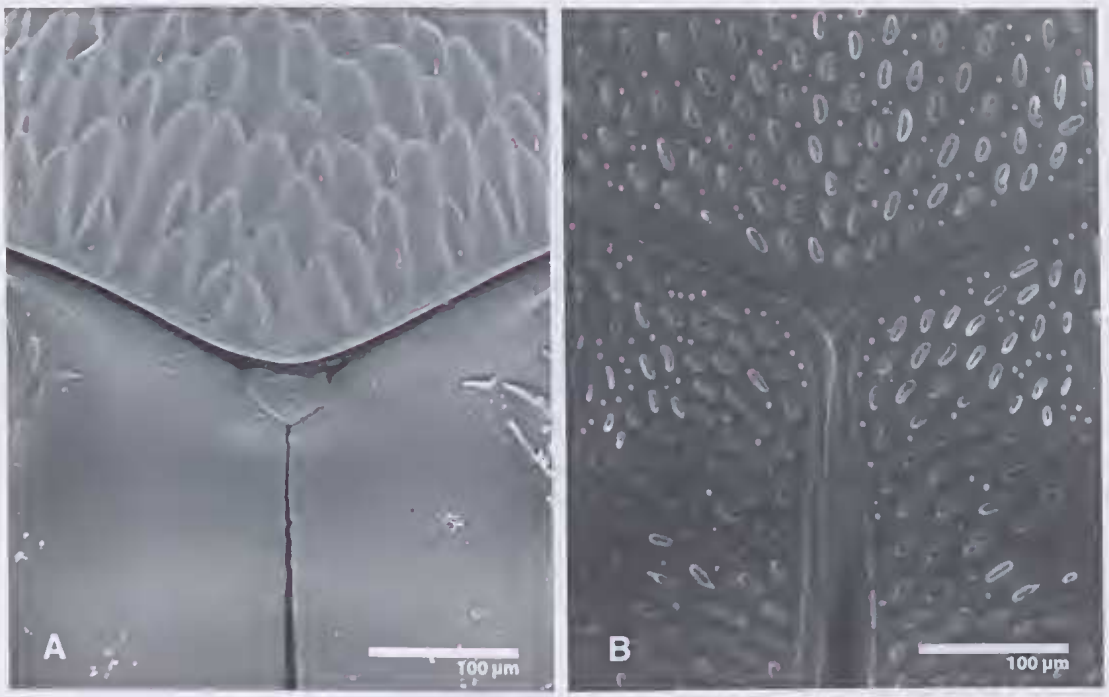


FIG. 2. Scutellum. A, *Chlamydopsis caledoniae* sp. nov.; B, *Chlamydonia* sp.

DESCRIPTION. L: 1.75; W: 1.22; E/Pn L: 1.95; E/Pn W: 1.26; Pn W/L: 1.63; E L/W: 0.95; Pr/Py: 0.77; Sterna: 0.47, 0.08, 0.47; Tibiae: 0.69, 0.69, 0.78. Body quadrate, dark, slightly rufescent brown, shining; most dorsal surfaces reticulostrigose, sparsely setose, setae faintly scalelike. Front of head, when retracted slightly proclinate; frons with sides weakly rounded, about 1.3x as long as wide, reticulately punctured, with sparse scale-like setae, especially near vertex; labrum about 2.2x as wide as long, anterior margin weakly rounded, disc shallowly reticulopunctate; antennal scape 2x as long as wide, widest near middle, disc very faintly reticulate, with scale-like setae, especially along outer margin; antennal club of female about one-third, that of male about two-thirds, scape length.

Sides of pronotum approximately parallel in basal half, converging apically to one-half basal width; lateral pronotal margin slightly elevated, bearing dense fringe of short, scale-like setae (these absent from anterior margin); lateral and anterior pronotal margins with continuous, fine, deep groove just inside margin, anterior portion of pronotal disc elevated slightly behind this groove; pronotal disc moderately convex medially, flattened slightly towards sides, entirely reticulostrigose, more elongately so posterolaterally. Antennal cavities broadly exposed from above. Prosternum short, its anterior margin broadly, deeply emarginate, with fine marginal stria; prosternal keel sharply rising anteriorly (reducing prosternal 'depth' anteriorly), narrowed between procoxae, emarginate posteriorly, bordered laterally by finely, but deeply impressed circumcoxal stria; prosternal disc entirely reticulostrigose.

Elytra with prominent humeral trichomes confined to basal one-third, with single broad, more or less flat, setose anterior elevation bearing anterior superficial stria along its outer edge, with a deep round fovea near inner apex; inner edges of anterior and posterior trichome elevations meeting near their apices, both with dense, golden setal fringe beneath meeting point; opening of trichome lateral to these inner edges small, rounded with small additional tuft of inwardly directed setae near outer edge; epipleuron separated from elytral dorsum by finely impressed stria extending from posterolateral corner anteriorly, curving into opening of trichome; most of elytral dorsum, and anterior one-third of epipleuron, reticulostrigose and sparsely setose, with reticulae more elongate across middle third of elytral dorsum; mediobasal

depression and posterior two-thirds of epipleuron impunctate and glabrous.

Mesosternum wide, projecting at middle, and extending forward around inner edge of mesocoxa; marginal stria obsolete at middle, visible mainly as oblique lateral fragments well mesal of mesocoxa; disc with small shallow punctures, conspicuously microsculptured between; mesometasternal and median metasternal striae finely but deeply impressed; metasternal disc impunctate, smooth, with only minute setae medially, with a few small punctures at sides and within mesotibial depressions; 1st abdominal ventrite with postcoxal stria deeply impressed, continuous across middle.

Femora slightly widened apically, outer surface of profemur with few punctures near base, otherwise exposed surfaces of all femora impunctate, with very fine polygonal microsculpture (becoming inconspicuous at their apices) and fine sparse setae; protibia broadly rounded, somewhat thickened just beyond middle, tarsal groove expanded, with unique fovea near its midpoint (about one-third from apex of tibia), outer margin sinuous; posterior surface of protibia sparsely setose, lacking microsculpture; posterior tibiae with outer edges rounded, mesotibia widest near middle, metatibia widest about two-thirds from base, both with fine polygonal microsculpture on outer surfaces.

Propygidium and pygidium both weakly convex, both reticulopunctate, pygidium becoming smooth in apical half.

Male. Eighth abdominal tergite largely membranous, extending to about two thirds length of ventral portions of segment 8; ninth segment very reduced, dorsolateral components separate, linear, abruptly broadened at bases, curving inward at apices; spiculum gastrale short, subquadrate, weakly expanded at apex, desclerotised at middle; tergite 10 completely desclerotised, not visible; aedeagus rather short, only about one-third longer than genital capsule (segments 8-10), basal piece almost one-third length of tegmen; tegmen slightly narrower than basal piece, narrowed from base to apex, weakly and evenly curving ventrad toward apex; apices of tegmen slightly separated, this apical cleft enlarged around tip of median lobe; median lobe nearly as long as tegmen, with fine, weak proximal apodemes.

Female. Ovipositor with valvifer paddle-shaped, basal expanded portion nearly half of entire valvifer length; coxite short, nearly as wide at base as maximum length, about half as long as valvifer, with two well developed apical teeth; gonostyle present on upper surface between bases of apical teeth, bearing two elongate and several short setae at its apex.

REMARKS. This species is mentioned, and included in the phylogenetic analysis, in Caterino's (2003) review of *Chlamydopsis* While quite distinctive, and not assignable to any of the species groups established in that paper, this species does resolve within *Chlamydopsis*, and its position there seems well founded.

Chlamydopsis baloghi sp. nov.
(Figs 3B, 4B, 5B)

MATERIAL. HOLOTYPE ♀: NEW-CALEDONIA, Bourail, Col d.Rousettes /26-27.1.1977, leg. Dr J. BALOGH; in HNHM.

DIAGNOSIS. See above under *C. caledoniae*.

DESCRIPTION. (to the extent that it differs from *C. caledoniae*). L: 1.95; W: 1.31; E/Pn L: 1.98; E/Pn W: 1.24; Pn W/L: 1.62; E L/W: 0.99; Pr/Py: 0.72; Sterna: 0.50, 0.09, 0.56; Tibiae: 0.87, 0.84, 0.94. Body quadrate, slightly elongate relative to *C. caledoniae*, dark rufescent, most surfaces densely reticulostrigose, with ground texture (between elevated reticulae) of dense polygonal microsculpture; apart from fringe of humeral trichome, body with only minute fine setae. Frons densely reticulate, with dense ground sculpture; antennal scape lacking reticulations, with only dense polygonal microsculpture. Pronotum with basal half of lateral margins subparallel, weakly outwardly arcuate, narrowed at approximately 45° to narrow, weakly emarginate, anterior margin; pronotal sides elevated (moreso than *C. caledoniae*), the anterior slightly less so, with distinct continuous groove just beneath inner edge, this groove becoming deeper anteriorly such that anterior portion of pronotal disc projects slightly higher than margin in front of groove; most of pronotal disc densely reticulate, reticulae very weakly elongate, particularly anteriorly and laterally, with dense microsculpture between, inner surfaces of the elevated sides smooth, shining. Elytra and humeral trichome structurally as in *C. caledoniae*; disc of elytron behind trichome densely reticulostrigose, with reticulae narrowed and elongated, particularly so in sutural half; ground texture within even narrow reticulae densely microsculptured; epipleural disc reticulate

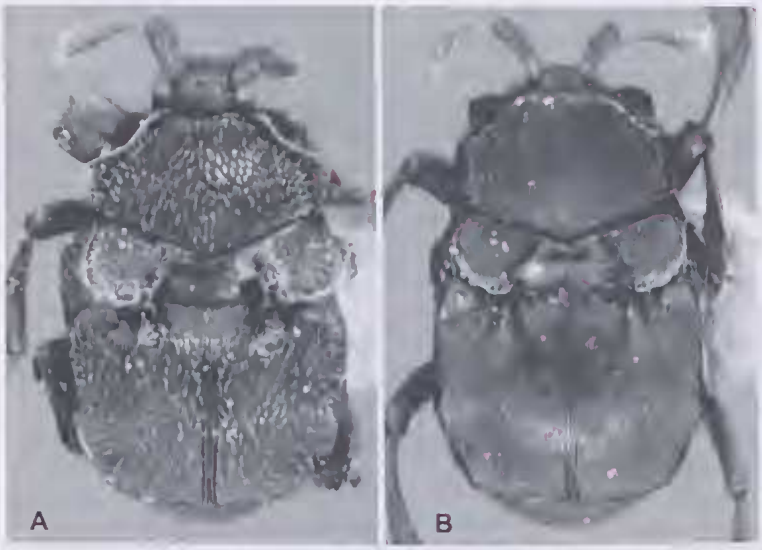


FIG. 3. Dorsal photographs of *Chlamydopsis* spp. A, *C. caledoniae* sp. nov.; B, *C. baloghi* sp. nov.

in basal half, becoming less deeply so posteriorly. Mesosternum with short oblique striae as in *C. caledoniae*, but more deeply incised. Protibiae apically enlarged as in *C. caledoniae*, but more distinctly sinuate, particularly along inner edge, with fovea of tarsal groove located about one-fifth from apex; meso- and metatibiae with outer edges rounded. Propygidium and basal half of pygidium densely reticulate, with dense ground microsculpture; propygidium with broad shallow depression on either side of midline in basal half; pygidium with shallow depressions along outer edges in apical two-thirds.

REMARKS. This species is named for its collector, acarologist János Balogh.

Kanakopsis gen. nov.

TYPE SPECIES. *Kanakopsis amieuensis* Caterino sp. nov.

DIAGNOSIS. This highly distinctive chlamydopsine resembles some species of the *Orectoscelis* lineage (also including *Pheidoliphila*, *Ceratohister*, and *Eucurtiopsis*), and was initially thought to belong within that group, possibly as a *Eucurtiopsis*. However, several differences distinguish it from any of those genera. They are all united primarily by a completely hidden scutellum, as well as by several simplifications of the mouthparts, including the fusion of the mentum and prementum into a bifid, cylindrical tube bearing 2-segmented palpi. *Kanakopsis* instead has mouthparts like *Chlamydonia*, with a distinct prementum, and 3-segmented labial palpi (Fig. 6). It also apparently has a scutellum that would be visible in a clean specimen (I have not been able to absolutely confirm this without damaging the unique type), but it is less evident than is the case in any *Chlamydonia*. It lacks two features common to all *Chlamydonia*: an accessory epipleural stria, and any hints of either frontal or anterior pronotal processes. To cite a positive feature unique to this genus, the trichome, comprising a simple transverse rounded incision near the humeral elytral corner (Fig. 7A), is very distinct from any other New Caledonian Chlamydopsinae (though reminiscent of some extralimital *Eucurtiopsis*.) Beyond these characters it is hoped that

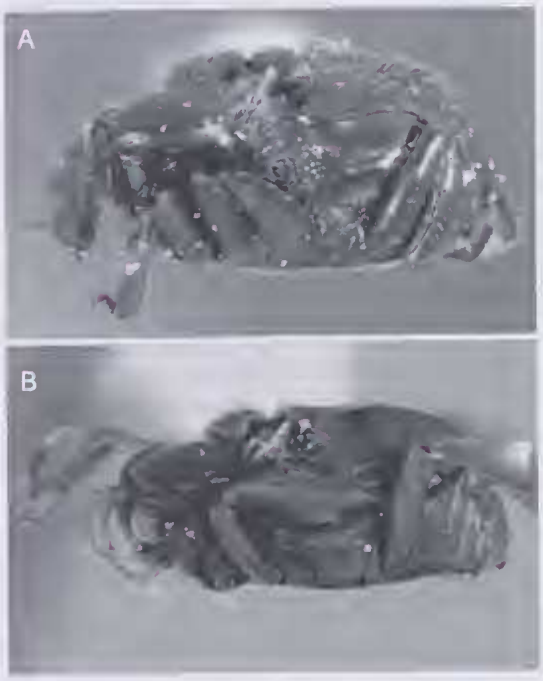


FIG. 4. Lateral photographs of *Chlamydopsis* spp. A, *C. caledoniae* sp. nov.; B, *C. baloghi* sp. nov.

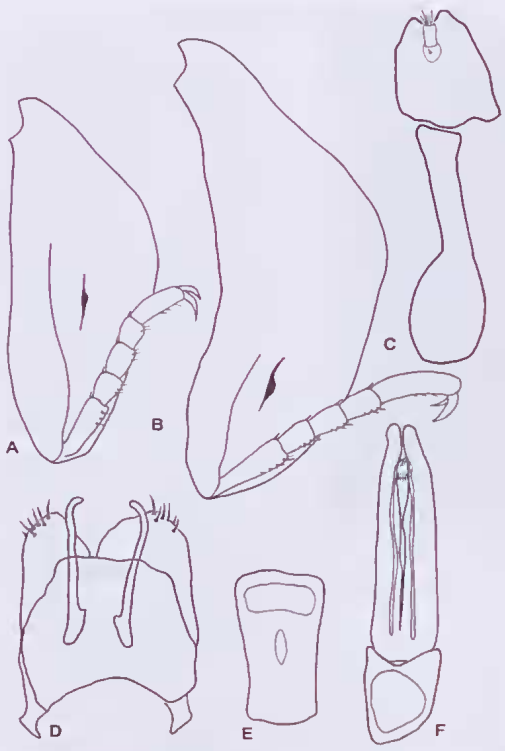


FIG. 5. *Chlamydopsis* spp. nov. A, Protibia of *C. caledoniae*. B, Protibia of *C. baloghi*. C, Right valvifer and coxite of ovipositor of *C. caledoniae*. D, Eighth and ninth segments of male genital capsule of *C. caledoniae*. E, Male spiculum gastrale of *C. caledoniae*. F, Aedeagus of *C. caledoniae*.

discovery of additional material (potentially additional species) will permit a more detailed characterisation of the taxon.

REMARKS. While I am hesitant to establish another monotypic genus of Chlamydopsinae, this species cannot be placed in any existing genus. The prefix Kanak comes from the name of New Caledonia's native people, who also sometimes refer to their homeland as Kanaky.

Kanakopsis amieuensis sp. nov.
(Figs 6, 7A, 7B, 7C)

MATERIAL. HOLOTYPE ♂: NEW CALEDONIA 11476, 21°35'S × 165°48'E, 400m. Col d'Amieu, sawmill. 25 Nov 2003 - 27 Jan 2004, G.B. Monteith, flight int. trap.; in MNHN.

DESCRIPTION. L: 1.92; W: 1.34; E/Pn L: 1.73; E/Pn W: 1.34; Pn W/L: 1.42; E L/W: 0.91; Pr/Py: 0.92; Sterna: 0.53, 0.09, 0.48; Tibiae: 0.50, 0.47, 0.50. Body oblong, ovoid, pronotum abruptly narrower than elytra, dark rufescent, elytra slightly lighter, smooth and shining, completely impunctate, with sparse, extremely fine setae on most surfaces. Frons with sides rounded, widest just above middle, emarginate at antennal bases, with disc perfectly flat in anterior two-thirds, depressed between faintly protuberant antennal bases; epistomal suture weakly inwardly arcuate; labrum slightly convex, bearing numerous fine setae near apex, with outer margin evenly rounded; mandibles bulbous at base, abruptly narrowed to fine overlapping apices, bearing fine setae on basal anterior surfaces; antennal scape subtriangular, bluntly angulate, widest at middle, with inner edge weakly inwardly arcuate and dorsobasal edge sinuate; antennal funicle about two-thirds as long as scape, approximate ratio of antennomeres 2-8, 4:3:1:1:1:1:1, antennomere 8 only with crown of setae; antennal club (of male) subequal in length to scape, densely pubescent; gular suture divided at base of submentum, resulting sutures weakly impressed (dissection would be necessary to determine whether they are complete); submentum projecting anteriorly between maxillary cardines; mentum irregularly hexagonal, with basal and distal edges longer; prementum projecting slightly beyond apex of mentum, bearing 3 segmented palpi; basal palpomere extremely short, palpomeres 2 and 3 longer, subequal, the ultimate bearing a few short apical setae; cardo deflexed, projecting slightly beneath level of mentum; stipes triangular; maxillary palpi 3 segmented; ratio of lengths of palpomeres 1-3, 2:1:3, ultimate palpomere with a few apical setae.

Prothorax strongly and evenly convex dorsally, with sides arcuate, convergent anteriorly, completely unmargined (entire prothorax oval in cross section); anterior pronotal margin evenly arcuate above head, interrupted at antennal cavity, with complete marginal stria continuous with sternopleural stria laterally; prosternal disc smooth and shining, lacking any processes, entirely convex except weakly depressed in small area in front of scutellum, with basal marginal stria meeting sternopleural stria at sides, complete except briefly interrupted in front of scutellum. Scutellum not evident dorsally, but anterior corners of elytra not completely closing scutellar gap; elytra strongly convex in posterior three-fourths, depressed between humeral trichomes; humeral trichomes present, close to anterolateral corners,

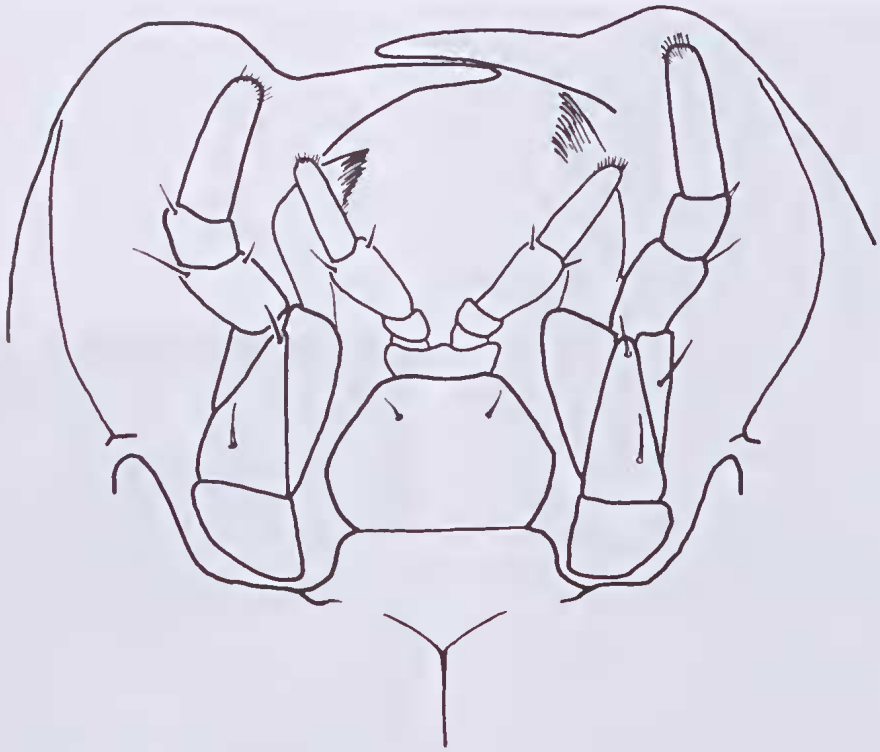


FIG. 6. Ventral view of mouthparts of *Kanakopsis amieuensis* sp. nov.

consisting of a fairly simple transversely oval opening between latero-clinate anterior and posterior elevations, bearing continuous dense inwardly directed marginal fringe in addition to sparser, more nearly erect secondary series of marginal setae, these latter more conspicuous anteriorly than posteriorly; mediobasal elytral depression evenly transversely concave, without median carinae, with sparse setae becoming slightly more numerous near trichome; elytra with prominent short longitudinal carina at apex of posterior convexity, carina forming a slightly projecting, near right angle between dorsal and lateral surfaces, its ridge with series of inconspicuous posteriorly directed appressed setae; epipleuron with oblique depression directed posterad from beneath trichome, otherwise flat to weakly convex, with single marginal stria departing from margin slightly above mesofemur, and more distinctly describing upper arc of metafemur; marginal elytral stria complete around all edges, though only weakly impressed in mediobasal depression.

Median prosternal length approximately two-thirds width (measured between sternopleural sutures), apical margin sinuate, with complete, shallowly impressed marginal stria; prosternal keel approximately parallel-sided between procoxae, but with marginal striae converging to posterior apex, meeting in a narrow arc; apex of keel weakly emarginate. Mesosternal median length about one-fifth its width (measured along mesometasternal suture), weakly projecting anteriorly, with marginal stria an even shallow arc between meso-coxae, approaching anterior mesosternal margin only at middle; meso-metasternal and median metasternal sutures complete, weakly impressed, without coincident striae; post- mesocoxal stria originating behind inner corner of coxa, directed posteriorly for about one-fifth metasternal length, then curving laterad, recurving obliquely anterad, crossing metepisternum to meet epipleuron; metasternal disc smooth and shining, with sparse fine setae.

Profemur with edges weakly arcuate, but more or less parallel, with marginal stria along posterodorsal edge, but not posteroventral; meso- and especially metafemora with edges more strongly rounded, lacking marginal striae; protibia slender, with outer edge angulate about one-third from base; meso- and metatibiae more

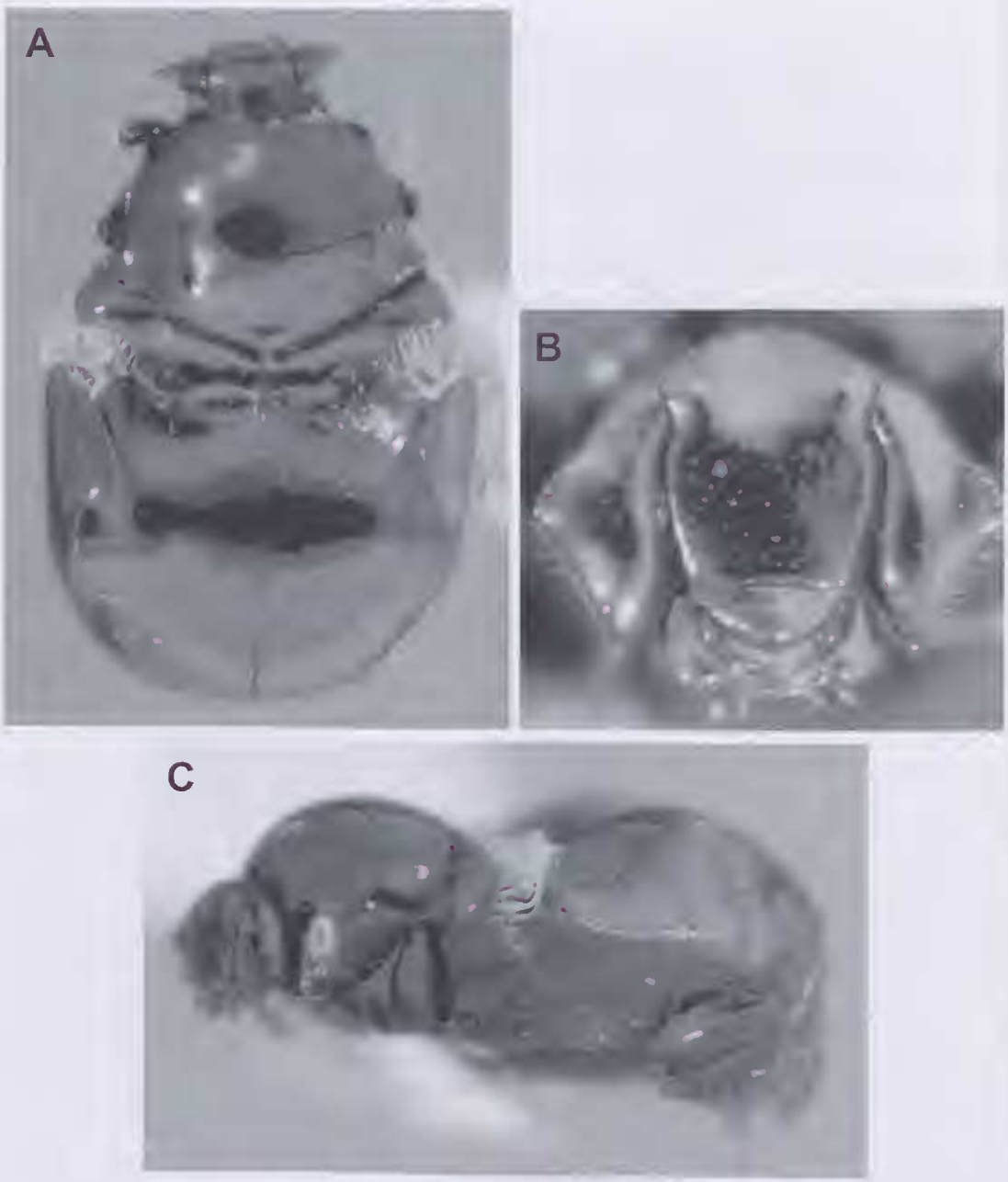


FIG. 7. *Kanakopsis amieuensis* sp. nov. A, Dorsal habitus. B, Frontal view. C, Lateral habitus.

broadly rounded, widest nearer midpoint; tarsi laterally compressed, with elongate ventral setae along length of tarsomere one, and at apices of tarsomeres 2-4; pretarsal claws simple and separate.

Propygidium about two-thirds length of pygidium along midline, both evenly convex, both unmargined, with sparse inconspicuous setae, those of pygidium becoming longer and more conspicuous toward apex.

Genitalia not examined in the unique type.

Chlamydonia gen. nov.

TYPE SPECIES. *Chlamydonia sol* Caterino.

DIAGNOSIS. The species placed here appear quite diverse in form, although this is more superficial than it at first appears. There is substantial variation in elytral sculpturing, and in elaboration of the humeral trichomes, but there are many more structural similarities, and the variation in trichome structure, in particular, constitutes a more or less continuous series. The most conspicuous shared characters are: frons tuberculate in two parallel, longitudinal series (Fig. 8A); median and lateral paired protuberances at the anterior pronotal margin, these ranging from very small to conspicuous and extending back to the pronotal midpoint, the median pair much reduced in some species; epipleural marginal stria doubled above the metathoracic leg (Fig. 8B), with one stria close to and more or less parallel to the lateral elytral margin, and another (termed the accessory epipleural stria below) arched dorsally, its apex usually 2-4x as distant from margin as marginal stria, meeting the marginal stria at the posterolateral corner and near or slightly anterior to the epipleural midpoint, epipleuron less densely punctate between striae; humeral trichomes varied, but more or less elongate in orientation.

DESCRIPTION. In addition to the defining characters above, the genus *Chlamydonia* is described as follows: Body subquadrate, parallel sided to having the elytra substantially broader than prothorax; rufescent to black, frequently with bronzy metallic tinge; most species densely punctate throughout, though a few with elytra and other parts impunctate; glabrous to sparsely setose, never densely setose; frons with tubercles, sides arcuate, abruptly interrupted, angulate at insertion of antennal scape; labrum rounded to subtriangular; mandibles with bases textured as labrum, apices overlapping, abruptly reduced in size, glabrous; venter of head (Fig. 8C) with stem of median gular suture ending free, or extended anterolaterad by short postsubmental sutures (or corresponding weak depressions); posterior edge of oral cavity straight, bases of mentum and cardines adjacent; mentum flat, transverse, rounded to minutely emarginate at apex; ligula distinct; labial palpi 3- segmented, with basal palpomere very short, not completely encircling shaft of palpus, palpomeres 2 and 3 longer, subequal in length; maxilla with 3 segmented palpus, the basal 2 palpomeres short, subequal, the apical about two-thirds as wide, and twice as long as basal segments; antennal scape (Fig. 8A) generally subtriangular, curved at base, bluntly angulate along outer margin; antennal funicle with pedicel and antennomere 3 subequal in length, the latter much narrower (at least at base), antennomeres 4-8 very short; antennal club of female about two-thirds length of scape, that of male from equal in length to 1.5x its length, densely pubescent, most with specialised sensory area near apex of anterior surface.

Prothorax slightly to strongly transverse (ratio width: length 1.3-1.8), moderately to extremely densely punctate, always with oblique carinae ('alae') above inner edge of antennal cavity, and usually with additional pair short parallel carinae near middle of anterior pronotal margin, these occasionally reduced to mere tubercles or absent; pronotum usually rounded laterally, rarely with weak marginal ridge, but never completely margined; prosternum moderately elongate, anterior margin moderately sinuate, with fine marginal stria restricted to extreme margin (not curving posteriorly as in some *Chlamydopsis*) occasionally obsolete at middle; prosternal disc sometimes depressed behind anterior margin, keel narrowed posteriorly (then slightly widened just behind procoxae) with complete marginal stria, weakly emarginate at apex.

Elytra with mediobasal depression between humeral trichomes; humeral trichomes always present, usually consisting of elevated rounded lateral process ('disc') bearing setae along half or all of its inner (upper) margin; disc variously elaborated at its bases, particularly posteriorly, where it may be extended as an elongate elytral carina; setal fringe of trichome generally short, dense, directed mediad, but occasionally erect, and/or extremely elongated; each elytron with marginal stria continuous on all edges, invariably accompanied by an 'accessory epipleural stria,' which delineates upper arc of metathoracic leg; texture of epipleuron within (below) accessory stria frequently distinct (usually smoother) from that of surrounding epipleuron. Mesosternum generally short, wide, with complete, usually deeply impressed marginal stria, projecting at middle; disc of mesosternum impressed on either side of an elevated midline in some; mesometasternal and median metasternal sutures finely to deeply impressed; metasternal disc varied, from smooth to densely punctate, flat to markedly convex; leg depressions of meso- and metasterna shallow, delimited by elevated carinae; legs varied, femora slender and convex to broad and flattened; protibiae usually slender and angulate; meso- and metatibiae slender and angulate in some species, more typically broader,

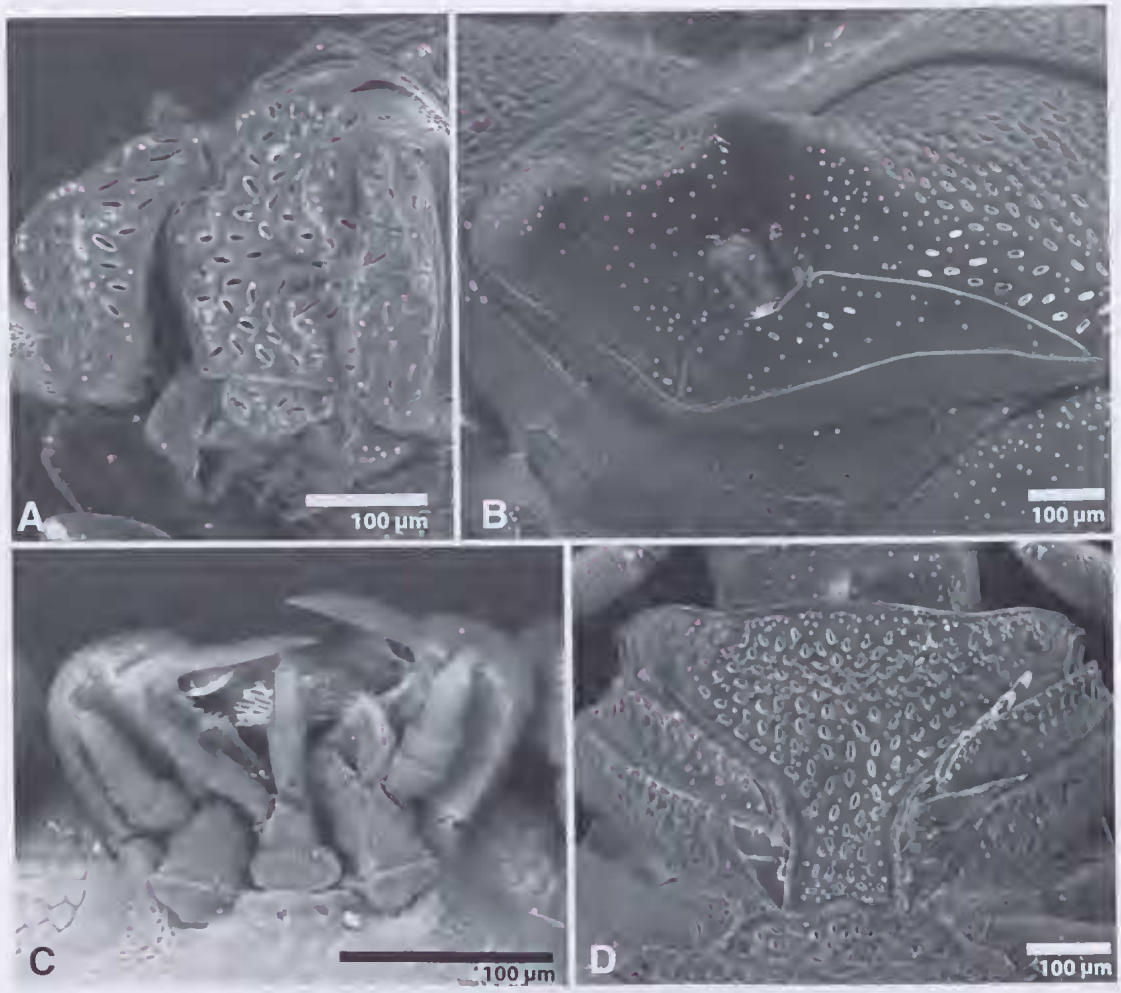


FIG. 8. Generic characters of *Chlamydonia*. A, Frontal tubercles of *Chlamydonia terapoides*. B, Accessory epipleural stria of *Chlamydonia sinuata*. C, Ventral view of mouthparts of *C. sinuata*. D. Prosternum of *C. sinuata*.

with outer margin bluntly angulate or rounded; tarsi weakly to strongly laterally compressed, with basal and apical tarsomeres subequal, tarsomeres 2-4 subequal, individually about half as long as apical tarsomere; basalmost tarsomere with ventral setae along most of length; tarsomeres 2-4 with long setae at ventral apex, and usually with shorter setae at dorsal apex; tarsal claws equal, simple, usually quite small, weakly to strongly arcuate.

Propygidium flat, evenly convex, or depressed along basal margin, length ranging from two-thirds to nearly full pygidial length, densely punctate in most, occasionally with conspicuous setae; pygidium flat to convex, to depressed at sides, generally similar in texture to propygidium or with punctures sparser, particularly diminishing in size and density toward apex.

Male genitalia undistinctive and similar in examined species, sternite 8 with apical setae; segment 9 elongate narrow, lateral components widely separated, curving weakly dorsad at apices; spiculum gastrale short, about one-third tegmen length, sclerotised only around edges, weakly hourglass shaped, basally with separate proximal apodemes, but with apical margin entire; basal piece about one-fourth tegmen length; tegmen slender, sides weakly sinuate, slightly expanded toward apex, then strongly narrowed, and abruptly curved ventrally to tip.

Female (two species examined); basal processes of segment 9 weakly outwardly arcuate, convergent proximally; valvifer of ovipositor spatulate at base; coxite about one-half length of valvifer, bidentate at apex; cylindrical gonostyle nearly reaching apex of coxite, bearing 4-5 long setae at apex.

REMARKS. The species of *Chlamydonia* fall into two superficially distinctive groups, one in which the elytral dorsum is densely punctate, and one in which it is entirely impunctate. However, strong similarities in trichome structure unite the two.

The similarities between *Chlamydonia* and the *Orectoscelis/Eucurtiopsis* lineage (also including *Pheidoliphila*, *Ceratohister*, and *Gomyopsis*) are suggestive of a close relationship, and worth additional discussion. The defining synapomorphy of the latter group is the fully hidden scutellum. In all of the latter taxa the base of the pronotum and elytra meet at a tight junction. The bases of the elytra diverge slightly toward the base, and this void is filled by an acute posterior extension of the pronotum. Examination of numerous specimens in which the head and prothorax have become separated from the rest of the body show clearly that the scutellum is entirely concealed from above. In *Chlamydonia*, while the elytral bases diverge similarly, and the scutellum is slightly or even strongly receded, the pronotum is not, or only barely produced posteriorly to fill the resulting opening. In all clean specimens, the scutellum can be seen within this opening. Specimens broken between the pro- and mesothorax, reveal a small bladelike dorsal scutellar edge, at approximately the level of the undersurface of the elytra. Differences in mouthpart structure also appear to clearly differentiate *Chlamydonia* from other Chlamydopsinae, although material available has been insufficient to be absolutely certain that these are consistent throughout either group. The labium of *Chlamydonia* exhibits a well sclerotised mentum, which is flat, coplanar with the submentum, and separate from the prementum. There are also 3 distinct labial palpomeres, although the basal one is short and difficult to see in undissected specimens. In all members of the *Orectoscelis* lineage examined, the labium lacks a distinct mentum (it is unclear whether it is fused with the projecting submentum, or incorporated into the prementum) and bears 2-segmented palpi.

Chlamydonia seems similarly transitional in prosternal structure. In all species the depression for reception of the prothoracic leg extends from the base approximately two-thirds of the way to the anterior margin, with the lateral portion of the prosternal disc (and hypomeron) distinctly elongated, relative to that of *Chlamydopsis*. Yet in no species of *Chlamydonia* does this elongation approach that seen in species of the *Orectoscelis* lineage, where the prothoracic leg depression is restricted to the basal half of the prosternum or less. The prosternal keel of *Chlamydonia* is also relatively narrow and retains the (plesiomorphic) acute basal emargination for the reception of the mesostemum. All of these features strongly suggest an intermediate position of *Chlamydonia* between *Chlamydopsis* and the *Orectoscelis* lineage, close, and probably sister group to the latter.

Chlamydonia sol sp. nov.
(Figs 9, 10A, 11A)

MATERIAL. HOLOTYPE ♂: NEW CALEDONIA 8910, 22°21'S × 166°58'E, Port Boise (G.Kanua), 22 Nov 2001-29 Jan 2002, G.B.Monteith, FIT trap; in MNHN. PARATYPES (2 ♂ ♂): 1: same data as type; 1: NEW CALEDONIA 8937, 22°20'S, 166°55'E, Kwa Neie summit, 500m, 22 Nov 2001-30 Jan 2002, G.B. Monteith, FIT trap; in QM and MSCC.

DIAGNOSIS. This species and the following four are quite similar, sharing a trichome structure in which a more or less laminate longitudinal disc arises from the basal half of the outer edge of each elytron, bearing a dense but short fringe of golden setae along its upper apical margin. This structure is also shared by the related, but otherwise superficially dissimilar *C. eucurtiopsoides*. In *C. sol* and *C. coutume* this disc extends from the humeral elytral corner to or just slightly beyond the elytral midpoint, whereas in *C. gomyi*, it terminates posteriorly distinctly short of the longitudinal midpoint. In *C. tjibaoni*, the disc is distinctly longer, extending about two-thirds the elytral length. In *C. sol* this disc is inclined mesally, about 30° off vertical, and its outer and upper surfaces are more or less evenly convex. In both *C. coutume* and *C. gomyi*, the disc is more deeply inclined (approximately 45° and 60° off vertical, respectively), and in the latter species, the convexity of the lateral surface is broken by a distinct ridge, above which the disc is weakly concave. In *C. tjibaoni*, the outer and upper surfaces of the disc are evenly convex, but its apex is inclined to fully horizontally. In *C. foveata*, the trichome disc is very similar in form to that of *C. gomyi*, reaching near the elytral midpoint, but its trichome fringe is erect, projecting dorsoposterad,

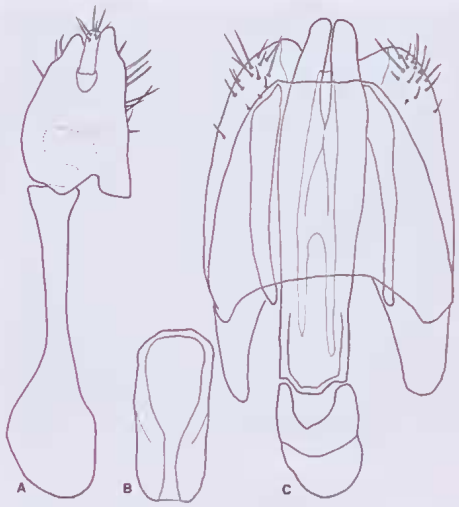


FIG. 9. Genitalic characters of *Chlamydonia*. A, Ovipositor (valvifer and coxite) of female *C. sol.* B, Spiculum gastrale (S9) of male *C. sol.* C, Aedeagus, abdominal tergites 8 and 9, and sternite 8 of *C. sol.*

and is unkempt, rather than neat and inwardly projecting. The median pronotal projections are also very weak in *C. foveata*.

DESCRIPTION. L: 1.53; W: 1.28; E/Pn L: 1.97; E/Pn W: 1.52; Pn W/L: 1.64; E L/W: 0.79; Pr/Py: 0.94; Sterna: 0.53, 0.08, 0.42; Tibiae: 0.53, 0.59, 0.59. Body subquadrate, dark rufescent brown, most surfaces densely and deeply punctate, glabrous apart from setae of trichome. Frons about 1.2x as long as wide, sides rounded, indented at antennal insertions, disc with 2 longitudinal series of glabrous tubercles, 2-3 per series in types, frontal disc otherwise densely punctate, with irregular, rugose microsculpture between punctures: labrum semicircular, with few small punctures and rugose microsculpture; antennal scapes bluntly angulate near middle of outer margin, convex and thickened along inner edge (oriented as retracted), thinner, somewhat explanate laterally, densely punctate and microrugose; antennal club of male about 1.2x as long as scape, female not known.

Pronotum transverse, slightly wider at base than apex, sides unmargined, weakly inwardly arcuate; anterior margin with small tubercle on either side, separated by about one half frontal width, and erect, oblique lateral flange extending from above inner corner of antennal cavity posterolaterally about halfway to lateral pronotal margin; pronotal disc densely covered with slightly oblong punctures, separated by about one-fourth their widths. Prosternum densely punctate except at extreme sides in front of procoxal depressions, narrowed, and slightly depressed between coxae, keel emarginate at base; prosternum with marginal stria continuous around all edges.

Elytra more or less parallel sided, transversely depressed in middle of basal one-fourth, convex posteriorly, with prominent humeral trichomes; trichome formed mainly of elevated rounded semicircular disc, extending posteriorly from humeral corner to about elytral midpoint, disc transversely incised at anterior and posterior bases, bearing dense, continuous, inwardly directed fringe of golden setae along entire dorsal edge, as well as opposing fringe from opposite edges of incisions; cavity beneath trichome fringe smooth, broadly open mesally, with small deeper cavity, about one-third diameter of large median opening, undercutting it further from middle; a fine ridge curving posterolaterally from posterior corner of trichome, separating dorsal portion of elytral disc from epipleuron, diminishing to posterior elytral corner; dorsal portion of elytral disc densely punctate except immediately beneath trichome fringe within mediobasal depression; lateral (outer) surface of trichome densely punctate, becoming punctatorugose along lower base of trichome disc, epipleuron otherwise only shallowly and faintly punctate, impunctate within accessory epipleural stria; elytron with marginal stria continuous on all edges.

Mesosternum short, about 5x as wide as median length, elevated along midline and lateral margins, but deeply depressed on either side, punctatorugose within depressions, with blunt anterior projection at middle; mesometasternal suture not impressed; postmesocoxal stria extending from inner edge of mesocoxa to metepisternum, delimiting mesothoracic leg depression; longitudinal metasternal suture finely impressed, metasternum sparsely punctate at middle, punctures separated by 2-3x their widths, becoming somewhat more dense toward sides, surface between punctures appearing smooth, but with fine polygonal microsculpture visible at higher magnifications; first visible abdominal sternite moderately densely punctate (notably less densely than prosternum), punctures separated by about one-half their widths; postmetacoxal stria extending from inner corner of metacoxa to edge of elytron, delimiting metathoracic leg depression. Lower (posterior) surfaces of profemur and protibia densely

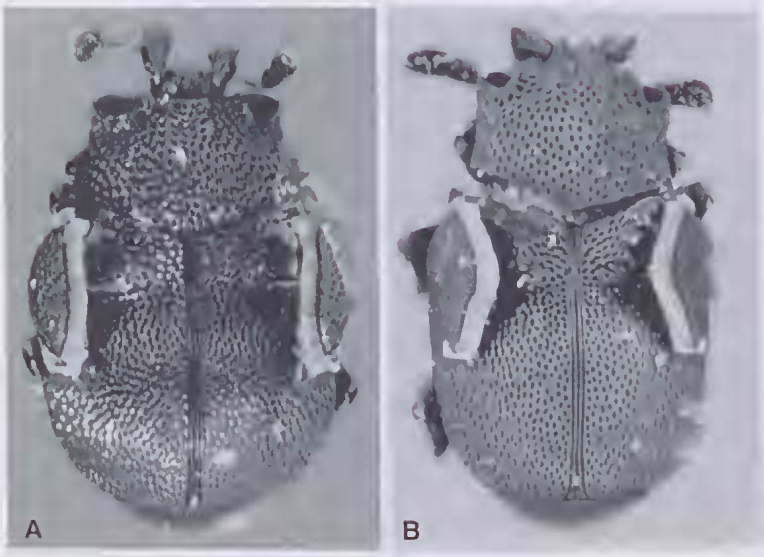


FIG. 10. Dorsal views of *Chlamydonia* spp. A, *C. sol* sp. nov.; B, *C. coutume* sp. nov.

punetate; lower (anterior) surfaces of meso- and metafemora and tibiae with very sparse, minute setigerous punctures; lateral edge of protibia angulate about one-third from base, maximum width about one-third tibial length, evenly tapered to narrow apex; meso- and metatibiae more bluntly angulate, arcuate to apex; tarsi laterally compressed, tarsomeres 1-4 apically oblique, apicoventrally acute; tarsal claws equal, fine, short.

Propygidium faintly convex, with deep oblong punctures separated by about their widths; pygidium nearly flat, with punctures separated by 1.5-2x their widths; pro- and pygidial surfaces with very fine polygonal microsculpture between punctures.

Chlamydonia coutume sp. nov.
(Figs 10B, 11B, 28B)

MATERIAL. HOLOTYPE ♂: NEW CALEDONIA 8904, 20°58'S × 165°17'E, 500m, Pie d'Amoa, N slopes, 24 Nov 2001-31 Jan 2002, G.B. Monteith, FIT trap; in MNHN.

DIAGNOSIS. This species and the next three are diagnosed with *C. sol* above. In *C. coutume* the fringe-bearing edge of the trichome disc is inclined about 45° off vertical, and its outer surface is more or less evenly convex, with the coarse dorsal punctures fading gradually into dense microgranulation on the epipleural surface. This species lacks the posterolateral ridge separating the posterodorsal portion of the elytral disc from the epipleuron, present in both the preceding and the following species, and the epipleuron is entirely punctatorugose above the accessory epipleural stria (though impunctate between this stria and the marginal epipleural stria). Of these five species, only in this species and *C. tjibaoui* is the medial portion of the metasternal disc densely and uniformly punctate (as compared with the lateral portion of the metasternum).

DESCRIPTION. L: 1.40; W: 0.44; E/Pn L: 2.21; E/Pn W: 1.38; Pn W/L: 1.61; E L/W: 1.00; Pr/Py: 0.89; Sterna: 0.47, 0.08, 0.37; Tibiae: 0.47, 0.50, 0.51. This species is very closely related to *C. sol*, above, and is described only to the extent that they differ. DISC of frons with two longitudinal series of glabrous tubercles, 2 per series in type, and additional smaller projections at antennal bases; frontal disc otherwise densely punctate; antennal

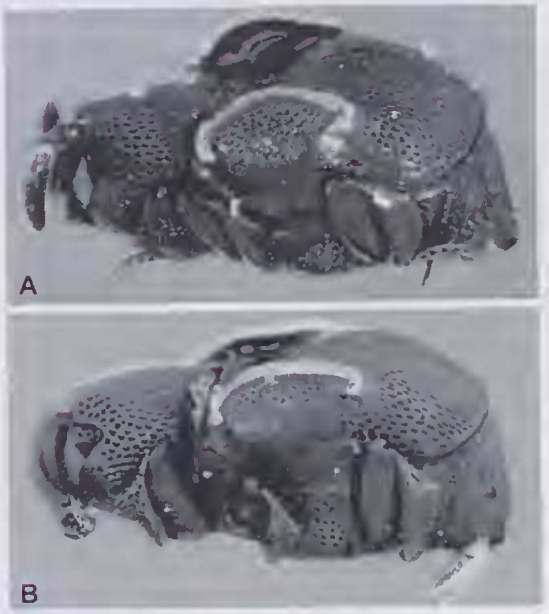


FIG. 11. Lateral views of *Chlamydonia* spp. A, *C. sol* sp. nov.; B, *C. coutume* sp. nov.

scape with fewer discrete punctures, though entirely granulately microsculptured. Medial pair of pronotal tubercles distinct at anterior pronotal margin, only very indistinctly continued posteriorly. Humeral trichome with outer disc rounded over, marginal setal fringe extending horizontally, its outer surface more or less evenly convex, with coarse punctation of upper surface grading into finely granulate lateral surface; elytron lacking posterolateral ridge extending from posterior base of trichome disc, dense punctation of posterior portion of elytral dorsum extending laterally to accessory epipleural stria; epipleuron impunctate, with only fine polygonal microsculpture between accessory stria and marginal stria. Metasternal disc uniformly punctate, with punctures separated by about 0.5x their widths; mesosternum and anterolateral corners of metasternum somewhat depressed relative to central part of metasternal disc.

REMARKS. This species name references 'La coutume', or the native Kanak code of social conduct.

Chlamydonia gomyi sp. nov.
(Figs 12A, 13A)

MATERIAL. HOLOTYPE ♂: NEW CALEDONIA 8919, 22°17'S × 166°54'E, Pic du Grand Kaori, 21 Nov 2001 - 29 Jan 2002, G.B. Monteith. FIT trap; in MNHN. PARATYPES (12♂♂), 2: same data as type; 1: NEW CALEDONIA 8902, 22°15'S, 166°49'E, 280m, Pic du Pin, east base, 21 Nov 2001 - 27 Jan 2002, G.B. Monteith. FIT trap; 1: NEW CALEDONIA 11865, 22°14'S, 166°50'E, 280m, Pic du Pin, site2, intercepts, 25 Nov 2004 - 12 Jan 2005, G.B. Monteith, Grimbacher, RF; 1: NEW CALEDONIA 11853, 22°17'S, 166°53'E, 250m, Pic du Grand Kaori,site2, 22 Nov 2004 - 12 Jan 2005, G.B. Monteith, Grimbacher, intercept traps, rainforest; 4: NEW CALEDONIA 11847, 22°17'S, 166°53'E, 250m, Pic du Grand Kaori,site1, 22 Nov 2004 - 12 Jan 2005, G.B. Monteith, Grimbacher, intercept traps, rainforest, 3: NEW CALEDONIA 11889, 22°19'S, 166°55'E,200m, Foret Nord, site 2, intercepts, 2 Dec 2004 - 9 Jan 2005, G.B. Monteith, Grimbacher, RF; in QM and MSCC.

DIAGNOSIS. See diagnosis under *C. sol*, above. The humeral trichome of this species differs in several subtle respects from that of the preceding two. The most distinctive of these is a discrete break between the dense punctation of the dorsal surface of the trichome disc and the fine granulation of the lateral portion (on the epipleuron). This division is marked by a weak ridge, and is also reflected in a change from lateral convexity to weak dorsal concavity. This species is also distinct in having a small, round section of the marginal trichome fringe pinched off from the remainder at its anterolateral (and to a lesser degree posterolateral) extreme. The resulting isolated bundle of setae extends laterally at its base, with the apex curving dorsad. The entire trichome structure is somewhat shorter, clearly not attaining the elytral midpoint.

DESCRIPTION. L: 1.47; W: 1.06; E/Pn L: 1.85; E/Pn W: 1.42; Pn W/L: 1.45; E L/W: 0.90; Pr/Py: 1.13; Sterna: 0.50, 0.08, 0.37; Tibiae: 0.44, 0.50, 0.50. This species is very closely related to *C. sol*, above, and is described only to the extent that they differ. Frons with two pairs glabrous tubercles, with additional smaller projections at antennal bases; antennal scape with only faint shallow punctures in basal half, becoming more distinctly punctate apically, with polygonal to granulate microsculpture throughout. Medial pair of pronotal tubercles prominent at anterior pronotal margin, extended posteriorly by carinae about one-fifth pronotal length, with additional discal tubercles just detectable posterolateral to apices of these carinae; anterolateral (supra-antennal) alae well developed; pronotum of some individuals with indistinct marginal ridge extending a short distance posteriorly from lateral-most point of antennal cavity. Humeral trichome with longitudinal lateral disc extending from humeral elytral corner to near elytral midpoint; disc inclined inwardly about 60° off vertical, its dorsal, densely punctate and shallowly concave portion set off from lateral, finely granulate, convex portion by weak ridge; marginal setal fringe of trichome disc with small round section pinched off at both anterior and posterior extremes, resulting bundles of setae directed laterally at their bases (nearly opposite those of adjacent portion of main body of fringe), curving dorsally at their apices; cavity beneath trichome fringe reduced in depth (relative to preceding two species) by laterally thickened trichome disc, no deeper than basal edge of marginal fringe, opening within this cavity reduced to small pit extending into trichome from floor of mediobasal elytral depression; epipleuron granulate on outer surface of trichome, granulation stopping short of marginal (anteriorly) and accessory epipleural striae, with few coarse punctures between; posterolateral ridge present, curving posterolaterally from posterior corner of trichome, extending to and merging with posterior margin of elytron (though frequently interrupted along its length) separating dorsal portion of elytral disc from epipleuron, epipleuron slightly less densely punctate than elytral dorsum;

epipleuron with few (3-5) small punctures in space between marginal and accessory striae.

REMARKS. This species is named for Yves Gomy, in recognition of his contributions to our knowledge of histerid diversity in New Caledonia.

Chlamydonia tjibaoui sp. nov.
(Figs 12B, 13B)

MATERIAL. HOLOTYPE probably ♀: NEW CALEDONIA 11420, 21°45'S × 166°00'E, Mt Do summit, 1000m. 22 Nov 2003. G.B. Monteith, Pyrethrum trees & logs; in MNHN.

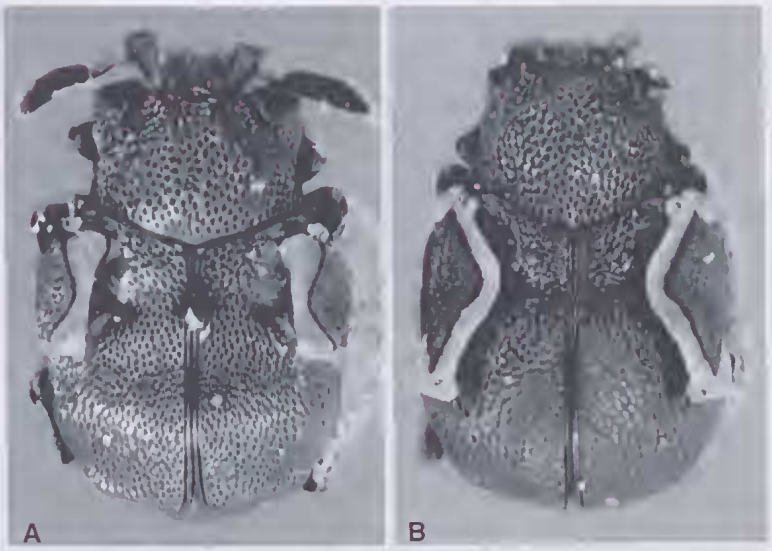


FIG. 12. Dorsal views of *Chlamydonia* spp. A, *C. gomyi* sp. nov.; B, *C. tjibaoui* sp. nov.

DIAGNOSIS. *Chlamydonia tjibaoui* is in some respects the most distinctive of the group diagnosed under *C. sol*, above. Most distinctively, the trichome disc is elongate, reaching from the humeral corner about two-thirds the total length of the elytra. Unlike the above species the transverse incisions at the anterior and posterior origins slightly undercut the base of the disc (a clear similarity to several species below). The sternal and abdominal ground texture is unique in this species relative to any others treated in this paper, with conspicuous polygonal microsculpture throughout, even within the punctures. This is particularly distinctive on the metasternum and pygidia, due mainly to the lower density of punctures on these surfaces.

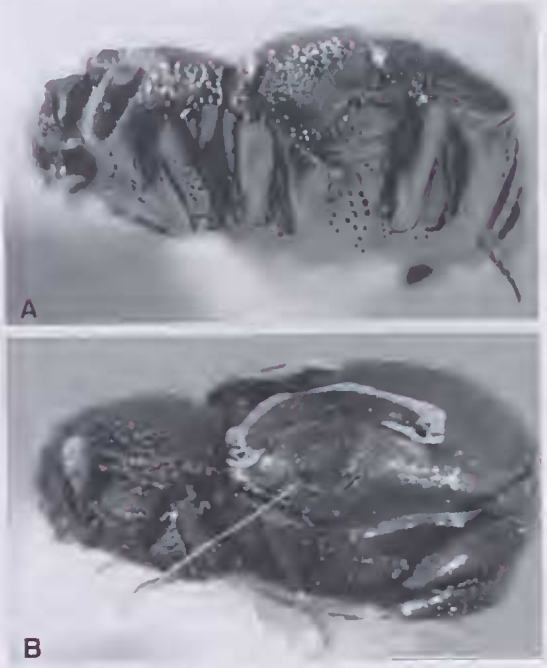


FIG. 13. Lateral views of *Chlamydonia* spp. A, *C. gomyi* sp. nov.; B, *C. tjibaoui* sp. nov.

DESCRIPTION. L: 1.53; W: 1.11; E/Pn L: 1.80; E/Pn W: 1.58; Pn W/L: 1.29; E L/W: 0.89; Pr/Py: 1.13; Sterna: 0.50, 0.06, 0.39; Tibiae: 0.44, 0.48, 0.53. This species is described only to the extent that it differs from *C. sol*, above. Frons with 4 weak discal tubercles, in addition to 2 of similar size at bases of antennae; frons deeply punctate, with microsculpture evident throughout; lateral and median carinae of pronotum similar in size, rather weakly developed, gradually diminishing from anterior margin postcrad for about one-fourth pronotal length; pronotum without any lateral margin; elytron with humeral trichome very prominent, extending from anterior corner two-thirds length of elytron, disc curving evenly inward from nearly vertical epipleuron to nearly horizontal at apex, almost reaching midpoint of each elytron; trichome disc subtriangular, with anterior and posterior edges nearly straight, bluntly angulate at apex, marginal fringe short, neat, and inwardly directed; anterior and posterior transverse incisions at trichome base expanded beneath trichome disc, undercutting its anterior

and posterior one-fifth, setal fringe continuous along these edges as well; trichome open beneath overhanging inner edge of disc, with large, deeper fovea at middle; posterolateral corner of trichome extended by simple carina which continues weakly to merge with apical elytral margin; epipleuron densely but finely punctatorugose beneath trichome, becoming impunctate, with only ground microsculpture evident, toward lateral margin; few fine punctures present within accessory epipleural stria. Prosternum very densely punctate, with microsculpture throughout; mesosternum depressed, densely punctate; metasternum convex, uniformly punctate, but much less densely so than prosternum, with polygonal microsculpture conspicuous; density of punctures of first visible abdominal sternum intermediate between that of pro- and metasternum.

REMARKS. This species name honours Jean-Marie Tjibaou, leader and advocate for the native Kanak people and culture, who was assassinated in 1989.

Chlamydonia foveata sp. nov.
(Figs 14A, 15A)

MATERIAL. HOLOTYPE ♂: NEW CALEDONIA 11476, 21°35'S × 165°48'E, 400m. Col d'Amieu, sawmill. 25 Nov 2003 - 27 Jan 2004, G.B. Monteith, flight int. trap.; in MNHN. PARATYPE, 1 ex. (sex uncertain): same data as type; in QM.

DIAGNOSIS. This species is distinguished by its short and continuous, but erect trichome fringe, in combination with densely punctate elytra. In all of the above species, the trichome fringe is directed mesad along the inner edge of the trichome disc. In a few species below, the fringe is subercct to erect, but these have either discrete bundles of very elongate setae (*C. erectipilosa* and *C. stellata*), or impunctate elytra (*C. eucurtiopsoides*).

DESCRIPTION. L: 1.62; W: 1.22; E/Pn L: 2.06; E/Pn W: 1.47; Pn W/L: 1.56; E L/W: 0.90; Pr/Py: 1.00; Sterna: 0.53, 0.06, 0.44; Tibiae: 0.53, 0.58, 0.59. Frons with 2 pairs of tubercles, anterior-most pair more distinct, upper pair weak, longitudinally diffuse, with very weak additional pair near vertex between antennal bases; median pronotal processes weak, short carinae, distinct anteriorly, gradually becoming obsolete about one-fifth from anterior margin; lateral pronotal alae slightly more strongly developed, oblique, extending from anterior margin to about posterior midpoint of antennal cavity; pronotal disc densely covered with elongate punctures, smooth and shining between punctures; prosternum with anterior margin slightly widened beneath head, marginal bead with dense microsculpture; prosternal disc deeply and densely punctate, with conspicuous microsculpture between punctures. Elytra with humeral trichomes extending from anterobasal corner posterad nearly to elytral midpoint, and mediad over about lateral one-third of each elytron, anterior and posterior basal incisions expanded laterally, slightly undercutting rounded trichome disc; disc rounded over to nearly horizontal dorsal surface, dorsal surface not separated from lateral by a carina; trichome with continuous short fringe along inner margin, projecting upward and curving posterad over much of its length, though reclinate to subercct at basal incisions (may be expected to look differently in life); trichome not broadly open beneath fringe, elevated disc solid beneath, with only small fovea below midpoint of disc; posterolateral corner of trichome with low ridge extending obliquely downward onto epipleuron, ending freely, posteromedial corner with more distinct carina extending posteromesad about one-fourth distance from trichome to posterior elytral margin; elytral disc uniformly densely punctate except immediately beneath trichome; epipleuron shallow rugose at base of trichome disc, more densely punctate along basal margin and above accessory epipleural stria posteriorly, impunctate within accessory stria. Mesosternum deeply depressed behind anterior marginal stria and on either side of elevated midline, densely punctate; mesometasternal and median metasternal sutures finely impressed; central portion of metasternal disc convex, with deep elongate punctures separated by about 3x their widths, becoming denser at sides, with rather faint polygonal microsculpture between punctures; first visible abdominal sternite weakly depressed, densely punctate, with punctures separated by about their widths. Legs with femora slender, profemur with margins sinuate, but more or less parallel, meso- and metafemora with anterior margins weakly arcuate, posterior margins straight, with depressed marginal stria; protibia slender, outer margin angulate about one-third from base; meso- and metatibia slightly broader, more bluntly angulate. Propygidium and sides of pygidium similarly densely punctate, the

midline, particularly apically, with punctures sparser.

Chlamydonia inflata sp. nov.
(Figs 14B, 15B)

MATERIAL. HOLOTYPE ♂: NEW CALEDONIA 11476, 21°35'S × 165°48'E, 400m. Col d'Amieu, sawmill. 25 Nov 2003 - 27 Jan 2004, G.B. Monteith, flight int. trap.; in MNHN.

DIAGNOSIS. This species and the following, *C. densa*, are quite similar, and also share many features with *C. foveata*. All three have a small trichome disc undercut by expanded anterior and posterior basal incisions, a relatively short trichome setal fringe, and densely punctate elytra. *Chlamydonia eucurtiopsoides*, *C. punctinota*, and *C. fauveli* have a similar trichome, but their elytra are virtually impunctate. *Chlamydonia foveata* is easy to separate from *C. inflata* and *C. densa* by its distinctly erect trichome fringe. In *C. inflata* and especially *C. densa*, the trichome fringe is denser, but along the inner edge the setae are all directed inward rather than upward. These two species can be separated by the size of the trichome disc, which is smaller in *C. densa* (though its fringe is relatively more conspicuous, filling the resulting larger anterior and posterior incisions), and by the density of elytral punctation, which is greater in *C. densa*. Also, in this latter species the elytral punctures are almost uniformly subcontiguous, whereas in *C. inflata*, they are distinctly separated, with smooth flat integument between. This is particularly evident behind the trichomes.

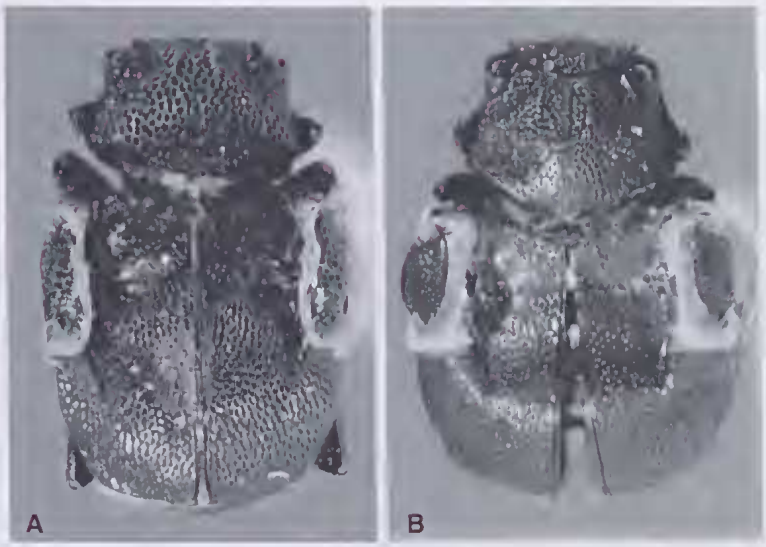


FIG. 14. Dorsal views of *Chlamydonia* spp. A, *C. foveata* sp. nov.; B, *C. inflata* sp. nov.

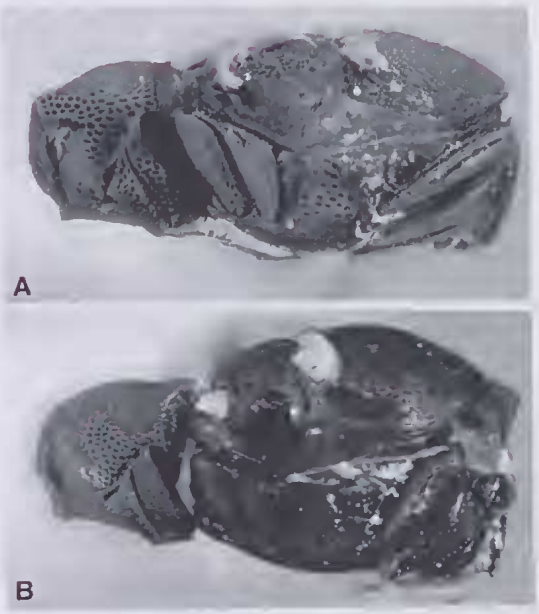


FIG. 15. Lateral views of *Chlamydonia* spp. A, *C. foveata* sp. nov.; B, *C. inflata* sp. nov.

DESCRIPTION. L: 1.95; W: 1.31; E/Pn L: 1.98; E/Pn W: 1.24; Pn W/L: 1.62; E L/W: 0.99; Pr/Py: 0.72; Sterna: 0.50, 0.09, 0.56; Tibiae: 0.87, 0.84, 0.94. Frons with sides strongly arcuate (beneath angulately emarginate antennal insertions) densely punctate, with prominent pair of tubercles immediately above labrum; additional pair nearer vertex slightly closer together, less prominent, and weakly contiguous with short carinae between antennal bases; labrum subtriangular, apex rounded, shallowly punctate; antennal scapes subtriangular, widest near middle, depressed along outer edge, particularly near widest point, shallowly punctate, punctures slightly less dense than those of frons.

Pronotum strongly convex dorsally, with sides narrowed from base, widened slightly around antennal cavities, laterally unmargined; median pronotal processes weakly developed as short carinae; lateral marginal pronotal processes

slightly more strongly developed; pronotal disc also with weak tubercles just behind middle separated by about head width. Prosternum with anterior margin weakly sinuate, with marginal stria at sides but obsolete beneath head; prosternal keel with edges elevated, depressed at middle, with complete marginal stria; entire prosternal disc densely punctate.

Elytra with humeral trichomes extending from anterobasal corner posterad nearly to elytral midpoint, and mediad over about lateral one-third of each elytron, its epipleural surface strongly convex, curving inward to about 45° off vertical, dorsal surface not separated from lateral by a carina; anterior and posterior basal incisions expanded at epipleural side, slightly undercutting rounded trichome disc; trichome with continuous bushy fringe along inner margin, projecting horizontally, with conspicuous opposing fringe on opposite edges of anterior and posterior incisions; trichome not broadly open beneath fringe, elevated disc solid beneath, median fovea lacking from inner surface of trichome; posteromedial corner of trichome slightly elevated, a weak oblique ridge leading to inner corner; elytral disc moderately densely punctate along sutural margin, less so behind trichome, and impunctate immediately beneath trichome; epipleuron entirely impunctate; trichome disc impunctate on outer base, with only few shallow punctures at dorsalmost edge.

Mesosternum depressed behind marginal stria, weakly projecting at middle; densely punctate; mesometasternal and median metasternal sutures finely impressed; metasternal disc moderately densely punctate at sides and in anterior corners, but with median portion of disc quite sparsely punctate, punctures separated by 2-3x their widths, intervening integument shining, with faintly evident polygonal microsculpture. First visible abdominal sternite with punctures denser, separated by slightly less than their widths. Legs with femora slender, profemur with margins sinuate; meso- and metafemora with anterior margins weakly arcuate, posterior margins straight, with depressed marginal stria; protibia slender, outer margin angulate about one-third from base; meso- and, moreso, metatibia slightly broader, only faintly convex along main axis, more bluntly angulate.

Propygidium with basal punctures separated by about their widths, becoming slightly more widely separated to apex; punctures of pygidium markedly shallower, becoming almost obsolete to apex.

REMARKS. This species name refers to the strongly convex pronotum and epipleural surfaces.

Chlamydonia densa sp. nov.
(Figs 16A, 17A)

MATERIAL. HOLOTYPE ♂ (head and prothorax off body, mounted at base of same point): NEW CALEDONIA 11482, 20°58'S × 165°17'E, 500m, Pic d'Amoa, N slopes. 27 Nov 2003 - 30 Jan 2004. G.B. Monteith, flight int. trap.; in MNHN.

DIAGNOSIS. See diagnosis under *C. inflata*, above.

DESCRIPTION. L: 1.40; W: 1.12; E/Pn L: 1.81: E/Pn W: 1.50; Pn W/L: 1.50; E L/W: 0.81; Pr/Py: 1.06; Sterna: 0.47, 0.06, 0.39; Tibiae: 0.44, 0.48, 0.53. This species is very similar in most respects to *C. inflata*, above. It differs as follows: median pronotal processes very weak, little more than marginal tubercles; posterolateral pronotal discal tubercles barely evident; elytra more densely punctate, with punctures subcontiguous nearly throughout, obsolete only beneath humeral trichomes and on epipleurae; elevated trichome disc smaller, sclerotised portion only about one-third elytral (sutural) length; anterior and posterior basal incisions of trichome broad, more deeply undercutting trichome disc, with trichome fringe, dense, continuous, conspicuously projecting from all edges; dorsolateral surface of trichome disc with punctures from upper edge down just beyond lateral constriction, then obsolete on epipleural convexity; metasternal disc uniformly more densely punctate, with punctures separated by slightly more than their widths; meso- and metatibiae more slender, nearer angulate than arcuate along outer edge, more distinctly convex along main axis.

Chlamydonia stellata sp. nov.
(Figs 16B, 17B)

MATERIAL. HOLOTYPE ♂: NEW CALEDONIA 11482, 20°58'Sx165°17'E, 500m, Pic d'Amoa, N slopes. 27 Nov 2003 - 30 Jan 2004. G.B. Monteith, flight int. trap.; in MNHN.

DIAGNOSIS. This species and the following, *C. erectipilosa* are very distinctive among *Chlamydonia* for their erect, elongate trichome fringe. In both a continuous elongate fringe arises dorsad from the entire edge of the trichome disc, including anterior and posterior opposing edges. In addition both possess separate elongate 'bundles' of setae on the dorsal surface of

the trichome disc parallel to the marginal fringe. In *C. stellata* there are 3 of these accessory bundles on each side, whereas on *C. erectipilosa* there are 4. This species is more readily distinguished from *C. erectipilosa* by its punctate elytra, while those of *C. erectipilosa* are almost entirely impunctate, with only a few inconspicuous shallow punctures along the suture. It is worth noting that in the types of both of these species the continuous setal fringe of the trichome margin appears clumped into bundles as well. However, I suspect this is an artefact of preservation, and that in life these setae would be more evenly distributed. The accessory 'bundles' of setae described here have very distinctly separate origins from each other (though they are subcontiguous at their inner edges with the marginal fringe).

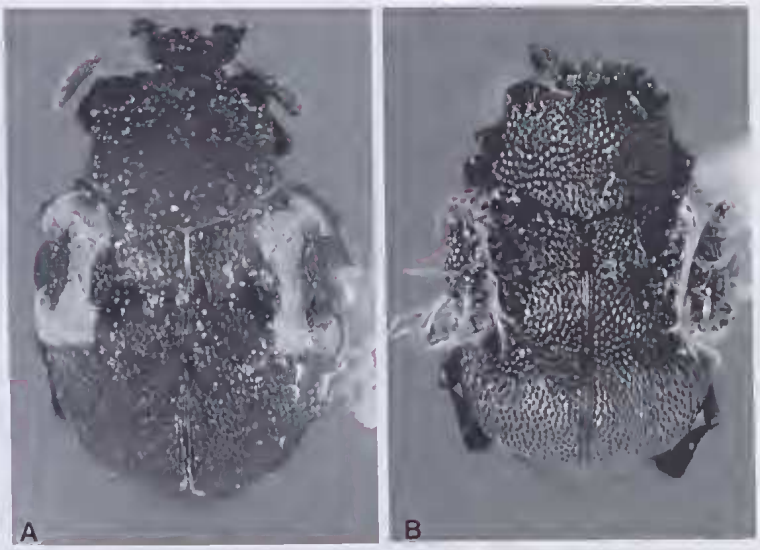


FIG. 16. Dorsal views of *Chlamydonia* spp. A, *C. densa* sp. nov. (head reattached to body digitally). B, *C. stellata* sp. nov.

DESCRIPTION. L: 1.50; W: 1.15; E/Pn L: 2.00; E/Pn W: 1.48; Pn W/L: 1.56; E L/W: 0.86; Pr/Py: 0.94; Sterna: 0.50, 0.06, 0.41; Tibiae: 0.48, 0.56, 0.59. Body dark, faintly rufescent, with bronzy tinge; frons with two pairs of similar, prominent tubercles; tubercles between antennal bases nearly as well developed, clearly separate from dorsalmost frontal pair; sides of frons angulately emarginate at antennal insertions, widest immediately below, narrowed evenly to epistomal suture, weakly arcuate; frontal disc uniformly covered with elongate punctures, with intervening polygonal microsculpture; labrum subtriangular, rounded at apex, faintly punctatorugose; antennal scape subtriangular, widest at midpoint, outer edge bluntly angulate, convex along main axis, slightly flattened to margin; antennal funicle (of male) about two-thirds length of scape, antennomere 2 cylindrical, antennomere 3 narrow at base, enlarged to apex, as long as antennomeres 4-8 combined; antennal club about as long as scape, densely pubescent.

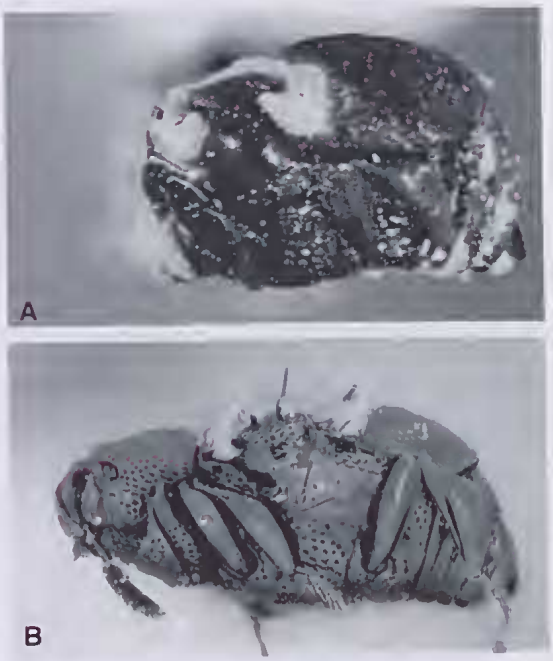


FIG. 17. Lateral views of *Chlamydonia* spp. A, *C. densa* sp. nov. B, *C. stellata* sp. nov.

Prothorax with sides unmargined, inwardly arcuate, narrowest just in front of middle; median marginal processes produced as weak carinae extending from anterior margin about one-fourth length of disc; lateral processes oblique, similar in length to median pair, slightly more strongly produced; posterolateral pronotal tubercles faintly evident; pronotal disc densely and uniformly punctate. Prosternum with anterior margin weakly sinuate, marginal stria evident, but weak at middle, with marginal bead flat and

slightly widened; prosternal keel weakly depressed between procoxae; prosternal disc deeply and densely punctate, with conspicuous microsculpture between and within punctures.

Elytra with humeral trichomes extending from anterobasal corner posterad to elytral midpoint, and mediad over lateral one-third of each elytron, its epipleural surface weakly convex, curving inward to nearly horizontal, dorsal surface not separated from lateral by a carina; anterior and posterior basal incisions expanded at epipleural side, slightly undercutting trichome disc; trichome with erect, elongate setal fringe along inner margin, with accessory bundles of elongate setae parallel to marginal fringe; trichome not broadly open beneath fringe, with small median fovea on inner surface of trichome; elytral disc uniformly densely punctate on dorsal surface; epipleuron more shallowly punctate posteriorly, and with epipleural surface of trichome disc impunctate nearly to epipleural margin.

Mesosternum short, slightly depressed behind nearly straight anterior marginal stria, with single transverse series of deep punctures; mesometasternal and median metasternal suture finely impressed; metasternal disc sparsely and only finely punctate at middle, with few larger punctures anteriorly and at sides, with faint polygonal microsculpture on impunctate surface; first visible abdominal sternite with deep punctures separated by about their widths along anterior margin, becoming shallower and more widely separated posteriorly. Legs with femora slender, profemur densely punctate on lower (posterior) surface, meso- and metafemora with only sparse, fine setigerous punctures on lower (anterior) surfaces, with marginal stria along posterior edges; protibia slender, outer margin angulate about one-third from base; meso- and metatibiae broader, bluntly angulate nearer midpoint of outer margins.

Propygidium densely, though rather shallowly, punctate, with punctures separated by slightly more than their widths, with faint microsculpture on intervening integument; pygidium similarly punctate at base, punctures becoming sparser but not obsolete toward apex, with microsculpture more conspicuous than that of propygidium.

Chlamydonia erectipilosa sp. nov.
(Figs 18A, 19A)

MATERIAL. HOLOTYPE ♀: NEW CALEDONIA 8910, 22°21'S × 166°58'E, Port Boise (G. Kanua), 22 Nov 2001 - 29 Jan 2002, G.B. Monteith, FIT trap; prothorax and head off body, mounted on same point; in MNHN.

DIAGNOSIS. See diagnosis under *C. stellata* above.

DESCRIPTION. L: 1.75; W: 1.34; E/Pn L: 1.80; E/Pn W: 1.65; Pn W/L: 1.30; E L/W: 0.84; Pr/Py: 0.77; Sterna: 0.56, 0.08, 0.44; Tibiae: 0.47, 0.50, 0.53. Body rufescent, with fine, sparse setae on most surfaces. Frons relatively short, nearly as wide as long, widest just below antennal insertion, convergent to epistomal suture; frontal disc with two pairs of tubercles as above, plus several smaller tubercles, two corresponding to those found between antennal bases in other *Chlamydonia*, others irregularly arranged and without homologues, all with cluster of setae at their apices; frontal disc otherwise densely punctate; labrum subtriangular, rounded at apex, with small setigerous tubercle; antennal scape rather slender, strongly curved at base, outer edge bluntly angulate at midpoint; antennal funicle and club subequal in length, each about two-thirds length of scape.

Prothorax widest at base, narrowed to front, widening just slightly at antennal cavities; median pronotal processes barely produced as vague swellings at anterior margin; lateral pronotal processes produced as low oblique carinae, extending from anterior margin posterad about one-fifth pronotal length; pronotal disc with elongate punctures separated by slightly less than their widths, with smaller setigerous punctures interspersed; ground texture of pronotal disc smooth, without any evident microsculpture. Prosternum with anterior margin sinuate, broadly arcuate beneath head, anterior marginal stria obsolete across middle (though extreme edge is faintly rugose, appearing striate), with wide smooth marginal bead lacking large punctures, but with small setigerous punctures; prosternal disc similar in texture to pronotum, densely punctate with interspersed setigerous punctures, most bearing scale-like setae; prosternal keel shallowly impressed between procoxae, with posterior marginal stria very close to edge.

Elytron with prominent humeral trichome, extending from anterolateral corner posterad about two-thirds elytral length, consisting of elevated, near vertical rounded lateral disc, bearing dense fringe of erect, elongate setae along upper edge, as well as discrete bundles of setae along outer edge of marginal fringe (as in *C. stellata*, marginal setae appear clumped in unique type, but this likely an artefact of preservation); trichome not broadly open mesally, but with small

median fovea; posterior edge of trichome broadly elevated, with posterolateral carina extending from its outer corner to merge with apical elytral margin; elytral disc with few shallow punctures near scutellum and more faintly along suture to rear, otherwise impunctate, smooth and shining, with only minute setigerous punctures sparsely scattered throughout. Mesosternum about one-fourth as long as wide, weakly depressed on either side of midline, marginal stria fine, close to margin; mesosternal disc with numerous small punctures; mesometasternal and median metasternal sutures finely impressed; metasternal disc smooth, with sparse, setigerous punctures, each with one or more scale-like or branched setae; first visible abdominal sternite smooth, with setigerous punctures denser than those of metasternite. Profemur about 3x as wide as long, anterior and posterior edges sinuate, but more or less parallel; mesofemur shorter, with edges weakly arcuate; metafemur longer, but broader, with anterior and especially posterior margins arcuate; meso- and metafemora lacking posterior marginal stria; protibia slender, angulate about one-third from base; mesotibia slightly broader, still angulate; metatibia distinctly broader, bluntly angulate near midpoint.

Propygidium with numerous setigerous punctures near base, becoming sparser toward apex, setae branched or scale-like, ground texture smooth and shining; pygidium similar in texture, but with setigerous punctures sparser.

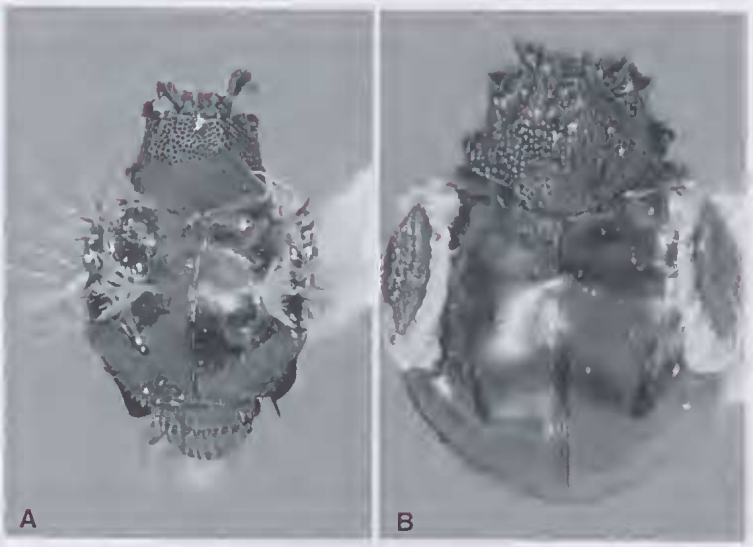


FIG. 18. Dorsal views of *Chlamydonia* spp. A, *C. erectipilosa* sp. nov. (head reattached to body digitally). B, *C. eucurtiopsoides* sp. nov.

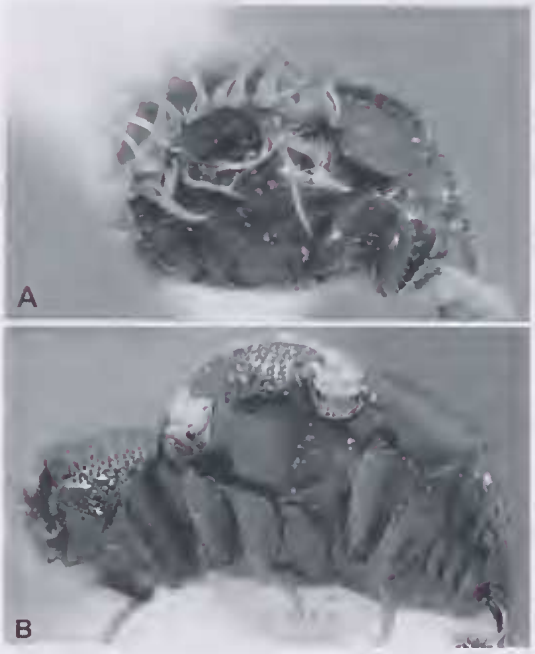


FIG. 19. Lateral views of *Chlamydonia* spp. A, *C. erectipilosa* sp. nov.; B, *C. eucurtiopsoides* sp. nov.

Chlamydonia eucurtiopsoides sp. nov.
(Figs 18B, 19B)

MATERIAL. HOLOTYPE ♀: NEW CALEDONIA 8904, 20°58'Sx165°17'E, 500m, Pic d'Amoa, N slopes, 24 Nov 2001-31 Jan 2002, G.B. Monteith, FIT trap; in MNHN.

DIAGNOSIS. This species and the following two (*C. punctinota* and *C. fauveli*) form a distinctive group, and are diagnosed here together. They can be separated from all other *Chlamydonia* by their wide, virtually impunctate elytra, with broad mediobasal depression, in combination with a short trichome setal fringe. *Chlamydonia erectipilosa*, above, also has impunctate elytra, but has a very distinctive elongate, erect trichome fringe. Diagnosing *C. eucurtiopsoides* from *C. fauveli* and *C. punctinota*

is more difficult. *Chlamydonia fauveli* is the most distinctive of these, with the setal fringe particularly extensive, due mainly to an enlarged posterior basal incision, providing a larger setose opening behind the trichome disc. The trichome disc itself is also impunctate, whereas in *C. eucurtiopsoides* and *C. punctinota*, at least the uppermost surface of the trichome disc bears numerous conspicuous punctures. *C. eucurtiopsoides* is the largest of these three species, with the elytra also broader relative to the prothorax. *Chlamydonia punctinota* is extremely similar, but aside from being slightly smaller, it is darker in color, lacks the small elytral punctures found near the scutellar region of *C. eucurtiopsoides*, and has fewer and shallower punctures on the upper surface of the trichome disc, with the punctures restricted to its upper, widest portion, whereas in *C. eucurtiopsoides*, these extend further toward the epipleuron, with a few punctures at the narrowest point (between anterior and posterior constrictions).

DESCRIPTION. L: 1.68; W: 1.50; E/Pn L: 2.00; E/Pn W: 1.92; Pn W/L: 1.39; E L/W: 0.75; Pr/Py: 1.00; Sterna: 0.56, 0.09, 0.41; Tibiae: 0.50, 0.44, 0.50. Body broad, with prothorax much narrower than elytra, dark rufescent, with impunctate areas (e.g. elytra) appearing slightly lighter, lacking conspicuous setae beyond those of humeral trichome. Frons about two-thirds as wide as long, with sides arcuate, weakly convergent to epistomal suture, with 3 pairs of prominent tubercles, uppermost pair (between antennal bases) less strongly protuberant, densely punctate between tubercles; labrum small, arcuate, with few small but deep punctures; antennal scape widest near middle, explanate at outer edges, with few small punctures, but largely impunctate, particularly along outer edge; funicle and antennal club subequal in length, each slightly over half scape length.

Prothorax widest at base, sides arcuate, narrowed to near apex, widened at antennal cavities, unmargined; median pronotal processes moderately prominent at anterior margin, weakly extended posterad; lateral pronotal processes more prominent, forming distinct carina extending from anterior margin obliquely posterolaterad behind antennal cavities, terminating before reaching lateral pronotal margin; pronotal disc densely punctate, with punctures slightly smaller and less dense mediobasally. Prosternum with anterior margin sinuate, arcuately produced beneath head, marginal stria present at sides, obsolete at middle; prosternal disc densely punctate except for narrow band of minute punctures along anterior margin and between procoxae; prosternal keel weakly depressed between coxae.

Elytra with sides very broadly rounded, widest at humeral trichomes, nearly twice as wide as base of pronotum; mediobasal depression very broad; humeral trichomes prominent; trichome disc rounded apically, suberect, extending from humeral corner posterad nearly to elytral midpoint, bearing dense golden marginal fringe; anterior and posterior basal incisions of trichome expanded on epipleuron, undercutting base of trichome disc, incisions completely fringed with dense marginal setae; mesal surface of trichome concave at base, but lacking distinct mesal fovea; elytral disc smooth and shining, impunctate except for few shallow punctures near scutellum, and with dense punctures on upper part of trichome disc, these becoming obsolete on epipleuron; epipleuron completely impunctate.

Mesosternum about one fourth as long as wide, bluntly projecting anteriorly at middle; marginal stria elevated, mesosternal disc weakly depressed and bearing small punctures behind; mesometasternal and median metasternal sutures finely impressed; metasternal disc with only sparse minute punctures. Profemur with anterior and posterior edges weakly sinuate, outer surface punctate in basal two-thirds; mesofemur shorter, about 3x as long as maximum width, anterior and posterior margins arcuate, without marginal striae; metafemur with margins more broadly arcuate, only about twice as long as maximum width; protibia slender, acutely angulate one-third from base; meso- and metatibiae broad, with outer edges flattened, both with outer margin bluntly angulate just basal to midpoint; tarsi strongly laterally compressed; tarsal claws short, weakly arcuate.

Propygidium and pygidium smooth and shining, with only minute setigerous punctures; propygidium weakly depressed along basal margin; pygidium weakly depressed along lateral margins.

REMARKS. With this species and the following known from single specimens, one of each sex, it is impossible to say how general the differences highlighted here may be. While obvious dimorphism has not been observed in *Chlamydonia* (as it has in *Chlamydopsis* and some *Eucurtiopsis*; Caterino, 2003; Dégallier & Caterino, 2005), it is conceivable that this accounts for some observed differences. It is also possible that additional sampling, particularly in intervening areas (the

type localities are separated by about 75 km), will blur these distinctions, and that their respective status will need to be reassessed.

Chlamydonia punctinota
sp. nov.
(Figs 20A, 21A, 28A)

MATERIAL. HOLOTYPE ♂: NEW CALEDONIA 11486, 20°24'S × 164°32'E, Mandjelia summit, 750m. 29 Nov 2003-31 Jan 2004, G.B.Monteith, flight int. trap.; in MNHN.

DIAGNOSIS. See diagnosis under *C. eucurtiopsoides*, above.

DESCRIPTION. L: 1.59; W: 1.37; E/Pn L: 2.19; E/Pn W: 1.73; Pn W/L: 1.59; E L/W: 0.80; Pr/Py: 0.95; Sterna: 0.47, 0.09, 0.41; Tibiae: 0.47, 0.53, 0.50. This species is very similar to *C. eucurtiopsoides*, and is only described here to the extent that they differ. Smaller overall, and particularly with elytra less broadly expanded relative to prothorax; integument uniformly darker; pronotal punctation less dense, many punctures separated by their widths, with impunctate intervening areas; nposterolateral pronotal tubercles only vaguely evident; elytra lacking punctures near scutellum; humeral trichome smaller, its posterior edge (posteriormost setose margin) clearly anterior to elytral midpoint; trichome dise smaller, with punctures restricted to dorsalmost portion of lateral surface.

REMARKS. The species name refers to the punctured pronotum, in particular as it contrasts with the impunctate elytra.

Chlamydonia fauveli sp. nov.
(Figs 20B, 21B)

MATERIAL. HOLOTYPE ♀: NEW CALEDONIA, Monts Koghis, Auberge, 26.VII-13.VIII.1978, S. & J. Peck, 500m, rainforest, nr. Nouméa; dissected by A. Tishechkin; in CMN.

DIAGNOSIS. See diagnosis under *C. eucurtiopsoides*, above.

DESCRIPTION. L: 1.68; W: 1.31; E/Pn L: 2.18; E/Pn W: 1.83; Pn W/L: 1.35; E L/W: 0.88; Pr/Py: 0.90; Sterna: 0.47, 0.06, 0.41; Tibiae: 0.44, 0.47, 0.53. As for the preceding two species, differing as follows: body rufescent, as in *C. eucurtiopsoides*; frontal tubercles confusedly arranged, with series of 4 discrete tubercles on left side, with only a single epistomal tubercle and an elongate carina on the right; pronotal

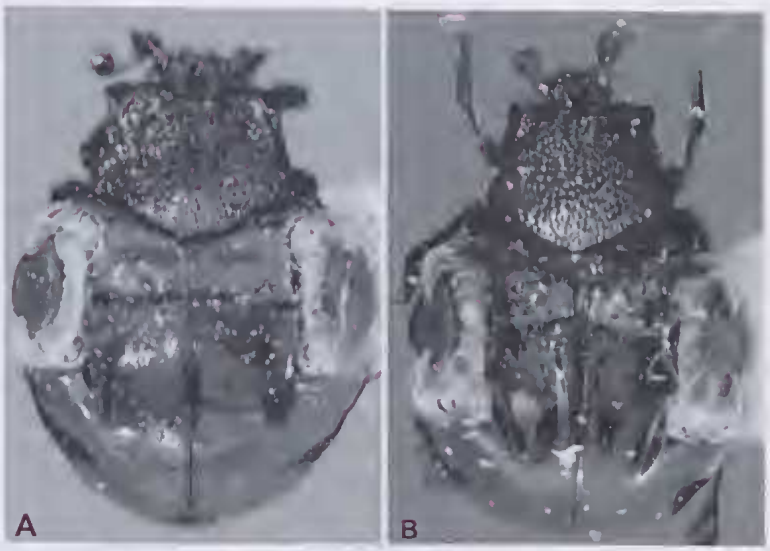


FIG. 20. Dorsal views of *Chlamydonia* spp. A, *C. punctinota* sp. nov.; B, *C. fauveli* sp. nov.

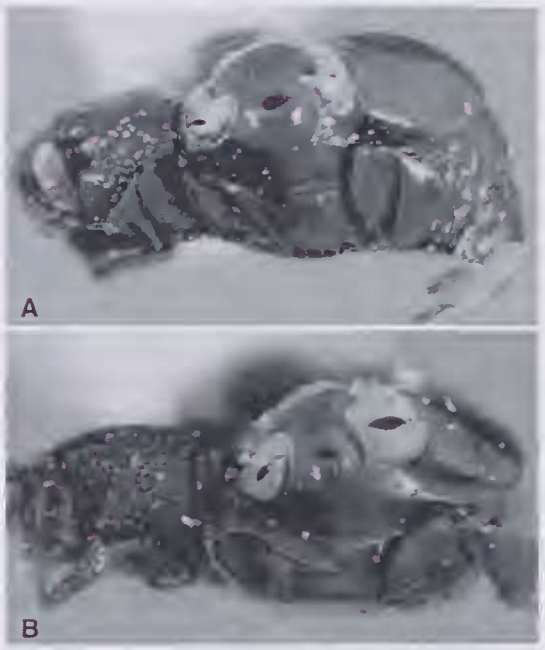


FIG. 21. Lateral views of *Chlamydonia* spp. A, *C. punctinota* sp. nov.; B, *C. fauveli* sp. nov.

processes weakly developed, median pair evident at anterior margin, diminishing as low carinae just behind margin; lateral supra-antennal alae slightly better developed, diminishing posterad to about one-third from anterior margin; elytra with humeral trichomes extending from anterior corners posterad to just beyond elytral midpoint, trichome disc rather small, nearly vertical, impunctate, bearing continuous marginal fringe; anterior and posterior basal incisions expanded, undercutting disc at base, with posterior opening, particularly, large and enfringed by dense setae; inner surface of trichome convex, only weakly depressed at base; elytra smooth and shining with only sparse, inconspicuous minute setigerous punctures over most of surface, with unique clusters of minute, raised setigerous tubercles in post scutellar area.

REMARKS. This species is named for Charles Adolphe Albert Fauvel, one of the fathers of New Caledonian coleopterology.

Chlamydonia terapoides sp. nov.
(Figs 8A, 22A, 23A, 28D)

MATERIAL. HOLOTYPE ♂: NEW CALEDONIA 8904, 20°58'S × 165°17'E, 500m, Pic d'Amoa, N slopes, 24 Nov 2001-31 Jan 2002, G.B. Monteith, FIT trap; in MNHN. PARATYPES (9♂♂): 7: same data as holotype; 2: NEW CALEDONIA 11482, 20°58'S, 165°17'E, 500m, Pic d'Amoa, N slopes. 27 Nov 2003 - 30 Jan 2004. G.B. Monteith, flight int. trap.; in QM and MSCC.

DIAGNOSIS. This species is the first of a group, comprising the remaining species of *Chlamydonia*, quite distinct from those above. In all members of this group, the rounded, variously elevated trichome disc described above represents a less prominent part of the overall trichome configuration. In most it is reduced in size, oriented nearly horizontally, and is set off from the epipleuron by a lateral ridge. In all species the anterior and posterior transverse incisions at the base of this disc are closed laterally, not extending to the epipleuron. The posterior incision, in addition, is opened up to form a shallow angulation, bearing the most conspicuous setal fringe. This is also extended in most by a posterior carina. *Chlamydonia terapoides* is the only species in the group in which this disc exhibits a setal fringe along its entire margin. In all of the remainder the setal fringe is absent from most of the anterior half of the reduced disc, and is restricted to the posterior angulation (and a small, separate anterolateral whorl). The two epipleural pits (beneath the trichome angulation) are unique to *C. terapoides*. *Chlamydonia angulata* exhibits a single larger pit in this position, but no such pits are seen in any other species. Also, as its name suggests, the meso- and metatibiae of this species are unusually large (shared to a lesser degree by *C. sinuata*).

DESCRIPTION. L: 1.53; W: 1.09; E/Pn L: 1.97; E/Pn W: 1.40; Pn W/L: 1.52; E L/W: 0.93; Pr/Py: 0.94; Sterna: 0.53, 0.09, 0.41; Tibiae: 0.50, 0.62, 0.69. Body form elongate, subquadrate, bronzy rufescent brown, almost entirely glabrous. Frons nearly twice as long as wide, sides more or less narrowed to front, their outlines interrupted where incised by antennal insertions; frontal disc with irregular series of (2-3) small tubercles mesal to antennal bases and with more conspicuous pair of tubercles at sides nearer anterior margin; frontal disc with irregularly spaced deep, ovoid punctures and fine intervening rugose microsculpture; labrum approximately semicircular, densely covered with very small punctures, with few inconspicuous setae along anterior margin. Antennal scape with narrow base, with inner margin sinuate, outer margin bluntly angulate near middle; disc of scape weakly explanate along outer edge, more convex along median axis, its surface with similar punctation and microsculpture to frons.

Prothorax about two-thirds as long as wide, unmargined laterally (in some individuals raised edges of punctures align to form a pseudomargin); sides inwardly arcuate, slightly narrower at apex than at base; antennal cavities broadly exposed from above; anteromedial pronotal margin shallowly inwardly arcuate; pronotal disc with low, paired longitudinal ridges diminishing from anterior margin to just beyond middle; oblique alae extending from anterior margin (actually projecting slightly beyond it) posterolaterally nearly to lateral pronotal edge; disc uniformly covered with deep ovoid punctures, these aligned mainly longitudinally, though converging antero- and posteromedially. Prosternum with anterior margin bisinuate, outwardly arcuate at middle, disc shallowly depressed behind anterior margin, narrowing posteriorly between procoxae, shallowly emarginate at posterior apex, with striae delimiting leg depressions elevated, carinate.

Elytra with sides faintly sinuate, broadest just behind humeri, narrowed strongly to base, and gradually to apex; humeral trichome conspicuous, comprising mainly an elongate, angulate carina, extending in a shallow arc

from very near anterolateral elytral corner posteriorly to about one-third from base, bending obliquely mesad, extending thence nearly to longitudinal elytral midpoint; this carina with dense fringe of mesally directed setae along almost entire length, extending fully to base where it loops around, nearly enclosing a very small opening, ending posteriorly just before terminus of carina; short, blunter, nearly parallel carina present beneath middle of anterior portion of trichome, forming a small 'shelf'; elytra with distinct mediobasal depression in basal one-third, extending laterad to form excavation beneath trichome; anterolateral corner of elytral dorsum delimited laterally by an arcuate supraepipleural carina; elytral disc densely punctate, punctures fewer only within outer half of mediobasal depression; pair of deep pits present beneath trichome on upper epipleural surface, above highest point of accessory stria; epipleuron otherwise uniformly punctate, only slightly less densely so within accessory epipleural stria; extreme elytral margin broad and with conspicuous polygonal mieroseulpture beneath epipleuron.

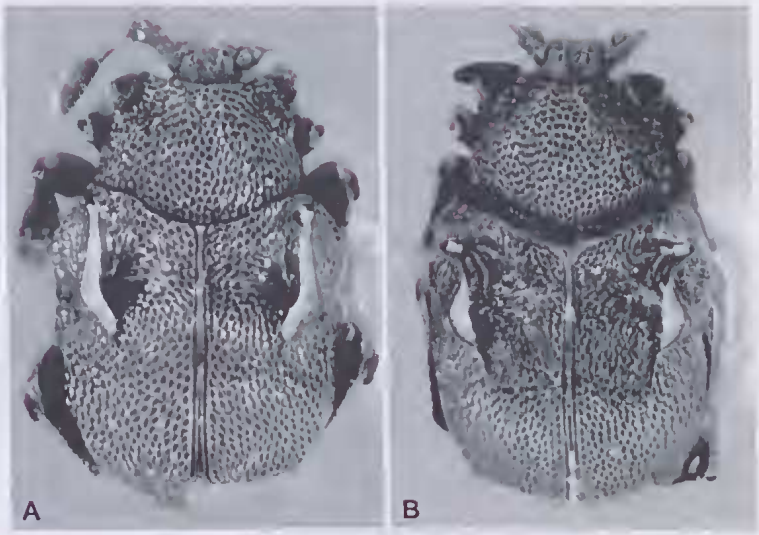


FIG. 22. Dorsal views of *Chlamydonia* spp. A, *C. terapoides*. B, *C. sinuata.*

Mesosternum broad, bluntly projecting at middle, depressed on either side of midline, appearing faintly tuberculate at middle in some individuals; mesosternal disc densely punctate except at extreme sides; mesometasternal and median metasternal striae finely but deeply impressed; metasternal disc densely and uniformly punctate (as in both mesosternum and 1st abdominal ventrite). Pro-, meso-, and metafemora with outer surfaces uniformly punctate in basal 5/6 (the profemur most coarsely so), with apices impunctate; protibia narrow, with outer margin angulate just before middle, densely punctate along outer half, coarsely mieroseulptured along inner edge; meso- and metatibiae enlarged broader, with outer margins broadly rounded, only faintly angulate about 2/3 from base, outer surfaces shallowly punctate, with conspicuous polygonal mieroseulpture throughout.

Propygidium and pygidium uniformly densely punctate; propygidium narrowly depressed along basal margin, elsewhere weakly convex; pygidium convex, elevated mainly along midline, with a few fine setae intermingled with punctures toward apex.

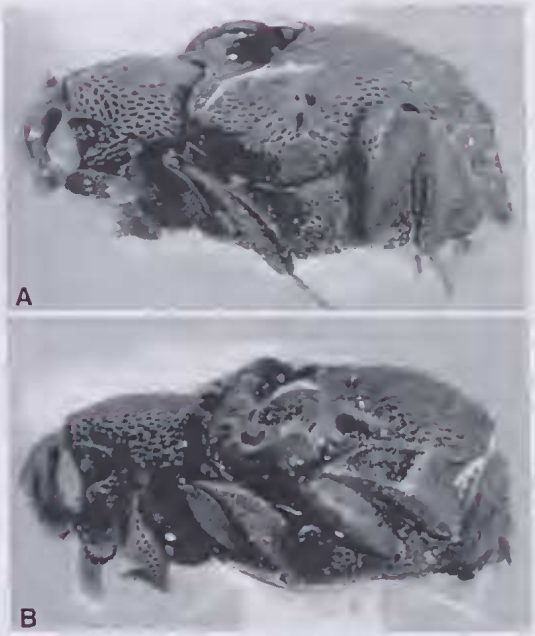


FIG. 23. Lateral views of *Chlamydonia* spp. A, *C. terapoides sp. nov.;* B, *C. sinuata sp. nov.*

REMARKS. The specific name of this species refers to its enlarged posterior tibiae, reminiscent of those of the New World hetaeriine histerid, *Terapus*.

Chlamydonia sinuata sp. nov.
(Figs 8B–D, 22B, 23B, 28C)

MATERIAL. HOLOTYPE ♂: NEW CALEDONIA 11476, 21°35'S × 165°48'E, 400m. Col d'Amieu, sawmill. 25 Nov 2003-27 Jan 2004, G.B. Monteith, flight int. trap.; in MNHN. PARATYPES (13♂♂), 9: same data as holotype; 2: NEW CALEDONIA 11475, 21°37'S, 165°49'E, Col d'Amieu, west slope. 25 Nov 2003-27 Jan 2004,G.B. Monteith, flight int. trap.; 2: NEW CALEDONIA 8910, 22°21'S, 166°58'E, Port Boise (G.Kanua), 22 Nov 2001 - 29 Jan 2002, G.B. Monteith, FIT trap; in QM and MSCC.

DIAGNOSIS. In addition to the group diagnosis above, this species is further distinguished by the very strongly sinuate inner edge of the trichome. Its marginal setae are restricted to the posterior half of the anterior disc, extending around the arcuate posterior angulation. The inner edge of the trichome is not prolonged by a posterior carina. The anteromedian 'shelf' beneath the trichome is particularly prominent, and separated from the anterior disc by a deep groove.

DESCRIPTION. L: 1.37; W: 1.00; E/Pn L: 1.93; E/Pn W: 1.39; Pn W/L: 1.53; E L/W: 0.91; Pr/Py: 1.00; Sterna: 0.45, 0.06, 0.37; Tibiae: 0.44, 0.56, 0.59. Body dark rufescent brown, elongate subquadrate, dorsum nearly uniformly densely punctate, punctures becoming transversely strigose in mediobasal elytral depression. Frons with two discrete tubercles near anterior margin, with poorly developed, somewhat oblique, elongate elevations anteromesal to antennal insertions, somewhat depressed between and above these; frontal disc uniformly densely punctate except granulate at antennal insertions; labrum approximately semicircular, weakly angulate at apex, surface granulate, with few faintly impressed punctures; antennal scape with outer margin bluntly angulate just beyond middle, surface with sparse, shallow punctures, but with dense granulate microsculpture throughout; antennal club of male equal in length to scape; female not known.

Pronotum transverse, slightly wider at base than apex, sides unmargined, weakly inwardly arcuate; anterior margin with very weakly developed tubercle on either side, separated by about one half frontal width, and low, oblique lateral flange extending from above inner corner of antennal cavity posterolaterally about halfway to lateral pronotal margin; pronotal disc densely covered with slightly oblong punctures, separated by about one-fourth their widths. Prosternum densely punctate except at extreme sides in front of procoxal depressions, short in front of these depressions, about one half length of depression behind; prosternal disc broadly depressed behind anterior margin, narrowed, slightly depressed between coxae; prosternal keel emarginate at base, with marginal stria continuous around all edges.

Elytra with broad mediobasal depression in basal one-third; humeral trichome prominent, complex, composed primarily of a longitudinally oriented, sinuate groove, with two separate setiferous areas, one near anterolateral elytral corner small, ovoid, mesally open, completely encircled by setae, one situated posterad, about one-third from elytral base, comprising an elongate, open arc, with golden fringe of convergent, mesally directed setae; setose areas connected by a broad deep groove, laterad of which is a ovoid, shallowly concave plateau (corresponding to the 'disc' described in species above), about 2x width of groove itself, and mesad of which is a more or less triangular, convex, vertically oriented sclerite closing off mediobasal elytral depression anteriorly; elytral disc densely, uniformly punctate, except within mediobasal depression, where punctures are transversely elongated, converging beneath trichome, and on epipleuron, which is entirely impunctate apart from: a few minute punctures within the accessory epipleural stria, faint alutaceous microsculpture beneath central portion of dorsal trichome, and faint polygonal microsculpture between accessory epipleural stria and lateral elytral margin. Each elytron with fine marginal stria complete on all edges.

Mesosternum short, broad, with bluntly acute anteromedial projection; mesosternal disc depressed on either side of midline, densely punctate except at extreme sides; mesometasternal and median metasternal striae finely impressed; metasternal disc less densely punctured than either mesosternum or 1st abdominal ventrite, with punctures separated by their widths or more; 1st abdominal ventrite with postmetacoxal stria obsolete at middle, visible behind coxae. Profemur punctate in basal half, becoming smoother, with fine polygonal microsculpture apically; meso- and metafemora almost entirely impunctate, faintly rugose near bases, otherwise with fine microsculpture, and very minute setae, throughout; protibia short, narrow, with outer margin angulate one-third from base; meso- and metatibiae broader, with outer margins rounded, with conspicuous polygonal microsculpture near inner and outer margins and fine setiferous punctures throughout.

Propygidium somewhat depressed, and with round punctures, along basal margin, becoming convex, and with punctures more elongate and sparse apicad; pygidium nearly flat, slightly elevated along midline, with punctures smaller and slightly sparser than on propygidium.

Chlamydonia dzumacensis
sp. nov.
(Figs 24A, 25A)

MATERIAL. HOLOTYPE ♂: NEW CALEDONIA 8934, 22°03'S × 166°28'E, Mt Dzumac road, 700m, 1 Nov 2001-27 Feb 2002, G.B. Monteith FIT trap; in MNHN. PARATYPES (2♂♂): 1: same data as holotype; 1: NEW CALEDONIA 11467, 22°03'S, 166°28'E, Dzumac Road, 700m. 5 Dec 2003 - 26 Jan 2004. G.B. Monteith, flight int. trap.; in QM.

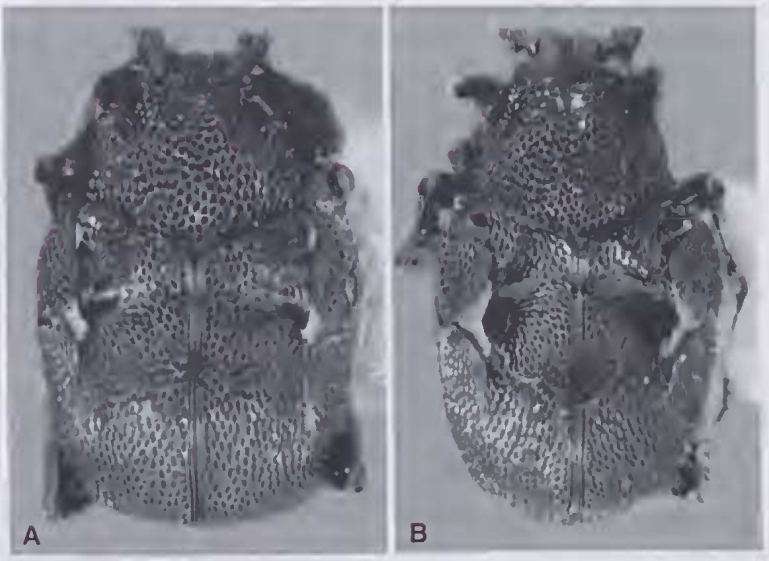


FIG. 24. Dorsal views of *Chlamydonia* spp. A, *C. dzumacensis* sp. nov.; B, *C. volans* sp. nov.

DIAGNOSIS. This species, while very similar to its close relatives *C. volans* and *C. angulata*, is fairly easily distinguished by trichome morphology. The posterior angulation is relatively shallow (about 120°), bears a small setal fringe, and is extended posteriorly by a bare longitudinal carina extending to about two-thirds of the total elytral length. The epipleuron bears a fine but distinct pit beneath the outer corner of the trichome angulation. In *C. angulata* this pit is larger, and in *C. volans* it is absent (and in the otherwise dissimilar *C. terapoides* there are two). *Chlamydonia dzumacensis* is further distinguished from *C. angulata* and *C. volans* by the uniform epipleural punctation, even within the accessory stria, where in these other two species there are only fine, or no obvious punctures.

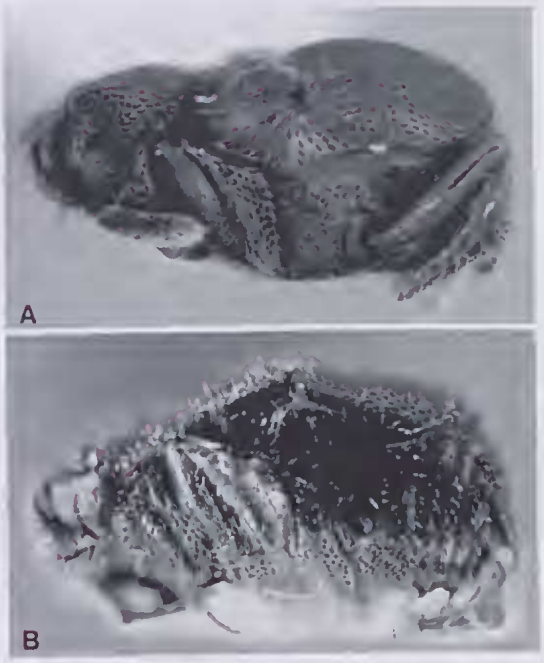


FIG. 25. Lateral views of *Chlamydonia* spp. A, *C. dzumacensis* sp. nov.; B, *C. volans* sp. nov.

DESCRIPTION. L: 1.44; W: 1.01; E/Pn L: 1.88; E/Pn W: 1.41; Pn W/L: 1.44; E L/W: 0.92; Pr/Py: 0.89; Sterna: 0.50, 0.08, 0.41; Tibiae: 0.59, 0.62, 0.66. Body elongate, subquadrate, faintly bronzy; all dorsal surfaces densely punctate, with very sparse, fine setae interspersed. Frons about 1.5x as long as wide, sides weakly arcuate, narrowed anteriorly and abruptly interrupted at antennal insertions; frons with paired, weakly developed longitudinal rows of tubercles, some coalescing into weak carinae, from antennal base to epistomal suture on each side; frontal disc densely punctate, with few very fine setae; antennal scapes more or less flat, not obviously explanate laterally, with outer margins bluntly angulate just beyond middle, punctures of scape slightly less deeply impressed than those of frons, with more flat surface appearing between;

scape with very fine setae, particularly along outer margin.

Prothorax about 1.5x as wide as long; sides unmargined, inwardly arcuate, widest at base, narrowed abruptly from base, then gradually widened to apex; antennal cavities completely exposed from above; pronotum with low, paired, oblique alae extending posterolaterally from anterior margin, diminishing behind middle of antennal cavity; mesal to these an additional pair of very poorly developed longitudinal carinae extend from anterior margin posteriorly nearly to pronotal midpoint; posterior half of pronotum evenly convex, densely covered with deep ovoid punctures, which converge to posterior midpoint. Prosternum with anterior margin bisinuate, outwardly arcuate at middle, disc shallowly depressed behind anterior margin, narrowing posteriorly between procoxae, shallowly emarginate at posterior apex, with striae delimiting leg depressions elevated, carinate.

Elytra broadest just behind anterior corners, slightly and evenly tapered to apex; mediobasal depression relatively small, confined to about basal one-fifth; humeral trichome comprising mainly a sinuate, longitudinal carina, extending from very near anterolateral elytral corner about two-thirds length of each elytron; this carina inwardly arcuate in basal half, outwardly angulate at middle, and more or less straight in apical half, with prominent mesally directed setal fringe within median angulation, and smaller, separate fringe at its very base (in anterolateral corner); a shallow, impunctate groove extends beneath inner edge of carina for its entire length; mediobasal elytral depression extending laterally beneath trichome; lateral edge of anterior trichome disc delimited by weak arcuate carina which extends from near anterior corner to outer apex of trichome angulation; epipleuron with single deep (though narrow) pit between apex of preceding carina and anterodorsal apex of accessory epipleural stria; epipleuron uniformly punctate, more sparsely than dorsum, with ovoid punctures converging to trichome; epipleural margin broad, with polygonal microsculpture; marginal elytral stria complete on all edges; elytral disc uniformly densely punctate, with fine inconspicuous interspersed setae.

Mesosternum short, broad, bluntly projecting at middle, depressed on either side of midline; mesosternal disc densely punctate except at extreme sides; mesometasternal and median metasternal striae finely impressed; metasternal disc similarly densely punctate; disc of first abdominal ventrite flat, broad, somewhat extended laterally by an acute lateral projection beneath metatrochanter; postmetacoxal stria obsolete along anterior margin of 1st abdominal ventrite, present from posteromedial corner of metacoxa to posterior margin of ventrite, merging with margin. Profemur with small punctures throughout; meso- and metafemora with small punctures in no more than basal one-third, with only minute setiferous punctures to apex; all tibiae narrow, outer margins explanate, angulate one-third from base.

Propygidium and pygidium uniformly densely punctate, with fine interspersed setae; propygidium flat basally, convex in apical half; pygidium evenly convex.

REMARKS. One specimen collected in the same sample with the holotype differs subtly in a couple of respects, and is excluded from the type series. In particular, the posterior angulation of the trichome is deep, nearly 90°, and bears a more elongate and conspicuous median fringe. The epipleural pit on the outside of this angulation is also considerably larger. In these respects it is similar to *C. angulata*.

Chlamydonia volans sp. nov.
(Fig. 24B, 25B)

MATERIAL. HOLOTYPE ♀: NEW CALEDONIA 8904, 20°58'S × 165°17'E, 500m, Pic d'Amoa, N slopes, 24 Nov 2001 - 31 Jan 2002, G.B. Monteith, FIT trap; in MNHN. PARATYPES (4♀♀): 1: same data as holotype; 1: NEW CALEDONIA 11482, 20°58'S, 165°17'E, 500m, Pic d'Amoa, N slopes. 27 Nov 2003 - 30 Jan 2004. G.B.Monteith, flight int. trap.; 2: NEW CALEDONIA 11486, 20°24'S, 164°32'E, Mandjèlia summit, 750m. 29 Nov 2003 - 31 Jan 2004, G.B. Monteith, flight int. trap.; in QM and MSCC.

DIAGNOSIS. This species is very similar to the preceding and the following (*C. angulata*) by virtue of the angulate humeral trichomes. It is distinct in having these more deeply (laterally) angulate, more strongly elevated, and in having the longitudinal carina extending posterad from the inner apex of the trichome poorly developed, extending posteriorly for a distance less than that of the setose portion of the trichome itself. This species also has the epipleuron more finely and sparsely punctate, and bears conspicuous elongate setae on the elytral dorsum, as well as most other body surfaces.

DESCRIPTION. L: 1.40; W: 0.95; E/Pn L: 2.00; E/Pn W: 1.42; Pn W/L: 1.43; E L/W: 0.98; Pr/Py: 0.89; Stema: 0.44, 0.08, 0.34; Tibiae: 0.45, 0.53, 0.58. Body elongate, almost parallel sided, prothorax slightly narrower than elytra, densely punctate throughout. Frons slightly longer than wide, sides weakly arcuate, incised at antennal bases, narrowed anteriorly, with parallel, longitudinal rows of irregular, blunt tubercles, forming indistinct ridges partially obscured by dense punctation, with smaller setigerous punctures concentrated subserially along these ridges; labrum flat, semicircular, finely punctatorugose, with few setae; antennal scape subtriangular, with inner edge weakly inwardly arcuate, flat basally, more convex in apical half, with apical angle bluntly rounded, disc shallowly but densely punctate throughout, with conspicuous elongate, apically curved setae; antennal funicle and club (of female) about one-half, and two-thirds length of scape, respectively.

Prothorax about 1.3x as wide as long, sides unmargined, faintly sinuately narrowed anteriorly; antennal cavities visible from above, with anterolateral portion of pronotal margin obliquely elevated above; medial portion of pronotal margin unelevated, shallowly emarginate; pronotal dorsum strongly convex, with posteromedial swelling diverging into separate low carinae extending to anterior pronotal margin, densely and deeply punctate throughout, with sparse, elongate setae throughout, particularly along anterior margin. Prosternum with anterior margin broadly outwardly arcuate, lacking marginal stria; prosternal disc shallowly transversely depressed behind anterior margin, keel elevated between procoxae (though slightly depressed along midline), narrowed posteriorly, emarginate at apex, disc densely punctate at middle, only slightly less so at extreme sides.

Elytra with sides straight, widest near base, converging slightly to apex; humeral trichome prominent, elevated, longitudinally oriented, with inner edge sinuately extending posteromedially from humeral corner, recurving laterally, then angulate near lateral edge and curving posteromedially again, terminating in a short, low, longitudinal carina; trichome with setae only in basal humeral depression, and within posterior angulation (about one-third from base); trichome broadly excavate beneath setose angulation; longitudinal humeral carina delimiting dorsal arc of anterior trichome disc, this curving inward slightly to trichome angulation, interrupted by a short, shallow, vertical incision beneath angulation, thence continued posteriorly for a short distance, diminished beyond elytral midpoint; dorsum of elytral disc densely and deeply punctate, transversely rugose within mediobasal depression, rugae convergent to trichome, with sparse, but elongate, apically curved setae throughout; epipleuron finely punctate beneath humeral carina anteriorly, and within accessory epipleural stria posteriorly; marginal epipleural stria deeply impressed, continuous with nearly complete marginal elytral stria (interrupted only in front of humeral trichome).

Mesosternum wide, short, transversely depressed with only lateral and anterior margins finely elevated, bluntly projecting at middle; mesometasternal and median metasternal sutures finely impressed, postmesocoxal lines prominent, extending across metepisternum (slightly interrupted at sternal-episternal suture), enclosing largely impunctate depression; metasternal disc otherwise densely punctate; first visible abdominal sternite similarly punctate, with postmetacoxal line originating medial to metacoxa, extended directly posteriorly nearly to edge of sternite, curving laterad, terminating freely just before reaching epipleuron. Femora with dense punctures in basal half, becoming impunctate toward apex; tibiae with outer margins bluntly angulate, protibia just before midpoint, meso- and metatibiae just beyond, width at widest point about one-third tibial length; tibiae longitudinally convex along inner edge, slightly explanate along outer edge; tarsi weakly compressed laterally; tarsomeres bearing elongate setae on dorsal and ventral surfaces.

Propygidium twice as wide as midline length, slightly depressed along basal margin, otherwise weakly convex; pygidium nearly as long as wide, very weakly convex; both deeplyand uniformly punctate.

REMARKS. This species name highlights the fact that all of the female types were collected by flight interception traps.

Chlamydonia angulata sp. nov.
(Fig. 26A, 27A)

MATERIAL. HOLOTYPE probably ♀: NEW CALEDONIA 11509, 21°25'S × 165°28'E, 400m. Col des Roussettes. 2 Feb 2004. G.B. Monteith, pyrethrum trees & logs.; in MNHN. PARATYPE ♂: NEW CALEDONIA 11865, 22°14'S, 166°50'E,

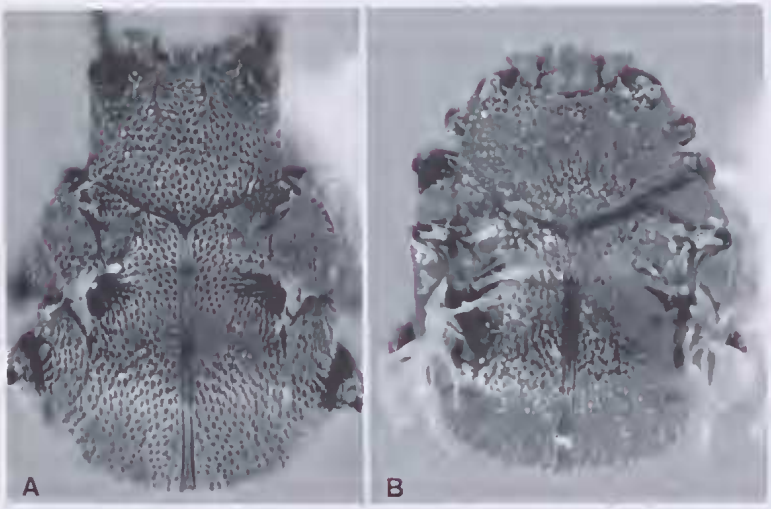


FIG. 26. Dorsal views of *Chlamydonia* spp. A, *C. angulata* sp. nov.; B, *C. wenzeli* sp. nov.

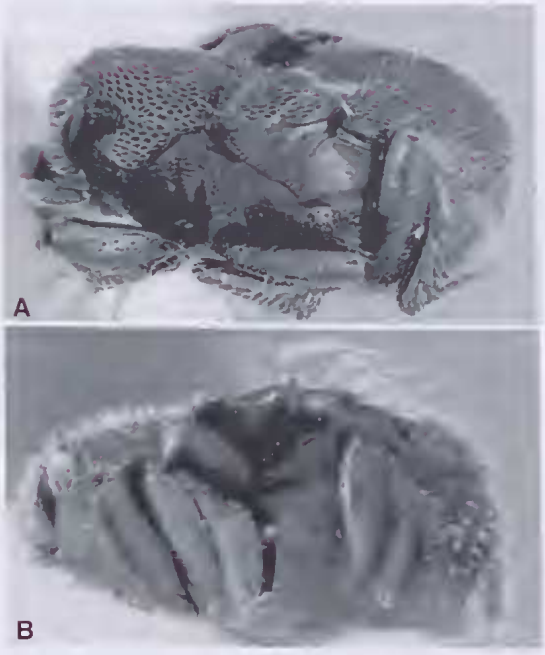


FIG. 27. Lateral views of *Chlamydonia* spp. A, *C. angulata* sp. nov.; B, *C. wenzeli* sp. nov.

280m, Pic du Pin, site 2. intercepts, 25 Nov 2004 - 12 Jan 2005, G.B. Monteith, Grimbacher, RF; in QM.

DIAGNOSIS. This species is quite similar to the preceding two. All share the distinctly angulate trichome, with its fringe restricted to this angulation. In *C. angulata* and *C. dzumacensis* this angulation is continued posterad by a long carina, which is poorly developed in *C. volans*. The elytra are broader relative to the prothorax in *C. angulata* than in either of the preceding species. The lateral sclerotised portions of its trichome, the anterior disc, and the posterior elevation, are also broader, the inner edge of the former reaching nearly the midline of each elytron. On the epipleuron, beneath the posterior trichome angulation, both *C. angulata* and *C. volans* have a vertical groove. However, in the present species, this groove is much deeper, appearing as a distinct constriction between the anterior disc and the quadrate posterior elevation. This is very shallow and superficial in *C. volans*.

DESCRIPTION. L: 1.54; W: 1.12; E/Pn L: 1.91; E/Pn W: 1.50; Pn W/L: 1.41; E L/W: 0.90; Pr/Py: 0.79; Sterna: 0.53, 0.08, 0.41; Tibiae: 0.56, 0.67, 0.75. As for *C. volans* except as follows: Elytra about one-third wider than base of prothorax; body setae more conspicuous, most of them 2-branched; anterior disc of elytral trichome flat, more nearly horizontal, elevated about 30°, relatively broad, its inner margin extended inward nearly to each elytron's midline, delimited posteriorly on its lateral edge by a deep vertical groove, which forms with posterior trichome angulation a narrow constriction; trichome fringe interrupted at outermost point of posterior angulation; epipleuron with small punctures along anterior third of lower margin, a few extending up along anterior edge of accessory epipleural stria toward trichome angulation; within accessory stria with only very small punctures, each bearing minute scale-like seta; legs, particularly those of meso- and metathorax, enlarged, femora nearly cylindrical in cross section, larger than corresponding thoracic depressions and not fully retractable; meso- and metafemora with short, mostly branched setae; outer margin of protibia strongly, subacuminately angulate just basal of midpoint; meso- and metatibiae long, relatively

slender, outer margins bluntly angulate near their midpoints, both with conspicuous elongate setae, many of them, particularly along the inner margin, branched.

REMARKS. This species is the only *Chlamydonia* described in this paper for which both sexes are known.

Chlamydonia wenzeli sp. nov.
(Fig. 26B, 27B)

MATERIAL. HOLOTYPE ♂: NEW CALEDONIA 11475, 21°37'S × 165°49'E, 470m, Col d'Amieu, west slope. 25 Nov 2003 - 27 Jan 2004, G.B. Monteith, flight int. trap.; in MNHN. Paratype (1): NEW-CALEDONIA, Mont Rembai 21.6°S, 165.85°E, 19-21 Jan 1977, leg. Dr J. BALOGH; in HNHM.

DIAGNOSIS. While sharing some characters with several of the above species, this is among the most distinctive *Chlamydonia* species. It is easily recognised by several features, most distinctively by the prominent carina extended posterad from the posterior trichome angulation bearing very elongate setal fringes on both its inner and outer edges. The body of this species is also relatively flattened compared to most of those above. Its pronotum is vaguely margined behind the antennal cavities, and completely lacks anteromedial processes.

DESCRIPTION. L: 1.70; W: 1.40; E/Pn L: 2.11; E/Pn W: 1.41; Pn W/L: 1.83; E L/W: 0.82; Pr/Py: 0.95; Sterna: 0.58, 0.08, 0.45; Tibiae: 0.59, 0.69, 0.70. Body subdepressed, not very strongly convex above, dark rufescent, with vaguely metallic sheen, most of upper surface densely punctate, with sparse but fairly conspicuous setae (aside from extremely conspicuous ones of trichome fringe); frons about one-third longer than wide, sides arcuate beneath weak indentations at antennal insertions, with single pair of small tubercles above epistomal suture; frontal disc densely punctate and bearing numerous long setae; labrum subtriangular, with few punctures, and polygonal ground microsculpture; antennal scape arcuate, bluntly angulate at middle of outer margin, shallowly punctate, faintly microsculptured; antennal funicle (of male) about two-thirds length of scape, the club about one-third longer than scape.

Prothorax weakly convex above, short, nearly twice as wide as midline length, sides slightly narrowed to front, weakly sinuate behind antennal cavities, submargined in anterior half; pronotum lacking anteromedial processes, and with only weak lateral alae above inner edge of antennal cavities; pronotal disc uniformly densely punctate, with sparse but conspicuous setae. Prosternum with anterior margin sinuate, with complete marginal stria; prosternal keel rather broad, shallowly emarginate posteriorly, with its marginal stria not following keel edges between coxae, rather more narrowly convergent; prostemal disc shallowly and sparsely punctate at middle, becoming impunctate toward sternopleural suture and at apex of keel.

Elytra broadest just behind humeri, rather evenly narrowed to apex, with mediobasal depressions weak at middle, more deeply depressed at sides; humeral trichomes prominent, with anterobasal emargination elevated, slightly removed from humeral corner, with distinct inner fringe of setae; fine groove delimiting small, semicircular anterior disc, its edge continuing through shallow posterior angulation, extended posteriorly to near elytral apex as a prominent, fairly broad carina; trichome setal fringe very elongate, erect, inserted from just behind innermost point of anterior disc, through posterior angulation, along entire posterior carina, splitting into distinct series on both its inner and outer edges; (these setal fringes appear separated into 'clumps' in holotype, as in several species above; I suspect this is a preservation artefact, as the setal insertions form a continuous series); elytral disc uniformly densely punctate, except impunctate along entire inner edge of trichome, and somewhat more broadly within the mediobasal depression, with sparse conspicuous setae throughout; epipleuron completely impunctate, within accessory stria and above.

Mesosternum short, about 6x as wide as median length, weakly produced at middle, with fine marginal stria; mesosternal disc not depressed, with only fine setigerous punctures; mesometasternal suture deeply impressed, the median metasternal and postmesocoxal less so; metasternal disc weakly convex, impunctate, smooth and shining, with sparse, minute setae; first visible abdominal sternite similar in texture to metasternum. Profemur flattened on its lower (posterior) surface, with anterior and posterior marginal striae, with few small punctures; protibia bluntly angulate about one-third from base, with marginal stria only apical to angulation, mostly smooth, with few small punctures; meso- and metafemora similar, nearly parallel-sided, with anterior and posterior margins faintly arcuate,

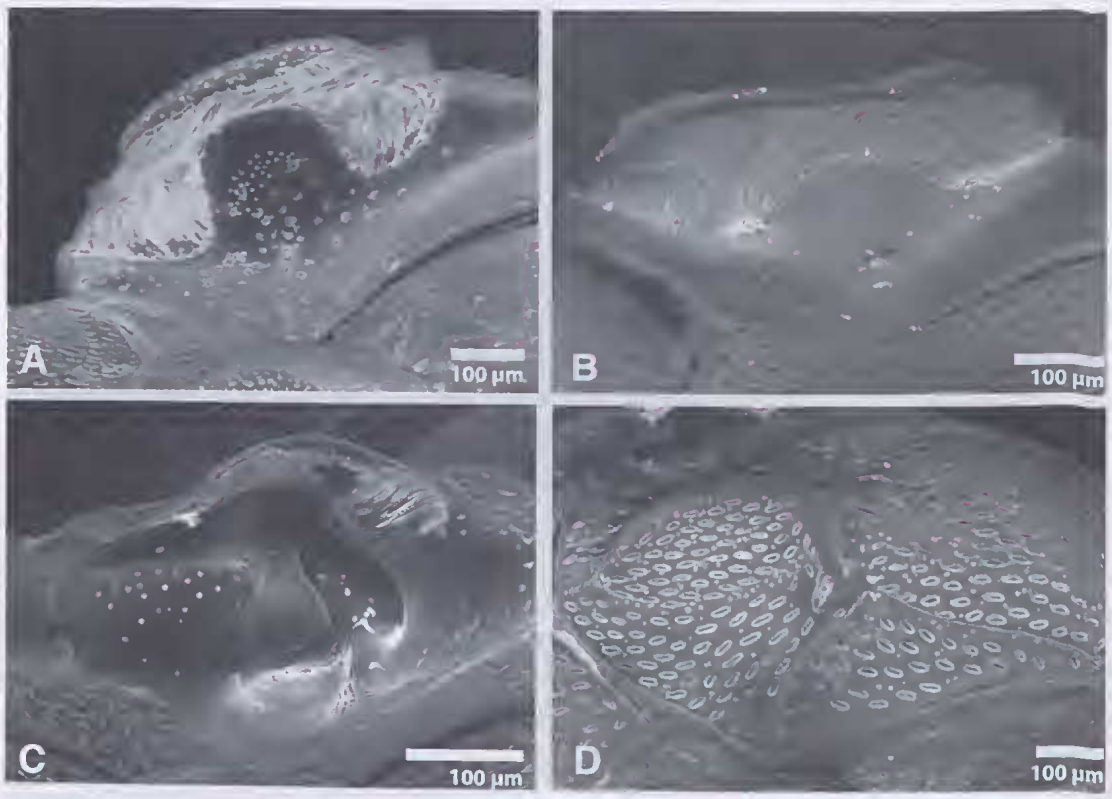


FIG. 28. Various characters of *Chlamydonia*. A, *Chlamydonia punctinota* (median fovea absent). B, *C. gomyi* sp. nov. (median fovea small). C, *C. sinuata* sp. nov. (median fovea large). D. *Chlamydonia terapoides* sp. nov. (epipleural pits present).

with marginal striae on both edges, impunctate but with conspicuous setae on ventral surface, and especially along anterior margins; meso- and metatibiae broadened, flat, outer margins bluntly angulate near midpoint, like protibia with marginal stria only along apical edge; tarsi weakly laterally compressed, with elongate setae ventrally, much shorter ones dorsally from apices of tarsomeres 1-4.

Propygidium uniformly, but rather sparsely punctate, with moderate shallow punctures separated by about twice their widths; pygidium with similar density of shallower punctures; both conspicuously setose.

REMARKS. This species is named in honor of Dr Rupert Wenzel, renowned histerid expert, in recognition of his pioneering studies of New Caledonian Histeridae.

PHYLOGENETIC ANALYSIS

TAXA. The purpose this analysis is to provide a preliminary hypothesis of relationships among the species of *Chlamydonia* described above. Outgroup relationships, and position of this genus among Chlamydopsinae, are being addressed elsewhere (Caterino & Dégallier, unpublished), and outgroup choice is based on those results. *Chlamydonia* appears to be sister lineage to the widespread '*Orectoscelis* lineage', and we include one member of this group, *Pheidoliphila magna* Caterino & Dégallier. Also included are: the single representative of *Kanakopsis*, described above, which appears to be sister to the group comprising *Chlamydonia* and the *Orectoscelis* lineage; the lone species of an as yet undescribed (New Guinean) genus which appears intermediate between that large lineage and *Chlamydopsis*; and two divergent species of *Chlamydopsis*, *C. striatipennis* Lea and *C. caledoniae*, described above.

The data matrix (see Tables 1, 2) was analysed in PAUP* (4.0b10; Swofford, 2003). All characters were unordered. Tree bisection-reconnection branch swapping was performed on 1000 random starting trees. The strict consensus tree from this search was input to TreeRot (ver. 2; Sorenson, 1999) to construct a command file for the calculation of decay indices (Bremer, 1994). MacClade (ver. 4.06; Maddison & Maddison, 2003) was used to investigate specific character support for various branches.

RESULTS AND DISCUSSION

Phylogenetic analyses resulted in 24 trees of 73 steps in length (CI = 0.5753; RI = 0.7182). The strict consensus of these (Fig. 29) is relatively well resolved, though few branches exhibit more than modest decay support. At the base of the tree this analysis suggests a slightly different resolution among outgroups than that found in a more comprehensive study (Caterino & Dégallier, unpublished). This, however, almost certainly results from sparse representation among outgroups, which are more variable in some characters than few representatives can capture. *Chlamydonia* itself is supported as monophyletic, with three steps decay support. The unambiguous changes on this branch are the defining characters of the genus: the possession of paired frontal tubercles, the presence of an accessory epipleural stria, and the uniquely reduced, but not completely hidden scutellum. This tree also reconstructs the loss of an anterior superficial trichome groove as a synapomorphy of this group, although this is also lost in numerous outgroups not included here, so is not unique to *Chlamydonia*.

Chlamydonia is split into two major lineages, both supported by a single decay step. Clade 'A' is supported by the appearance of a large median trichome fovea. A small fovea appears (from the plesiomorphic 'absent') in clade 'B'. While there is no a priori reason to exclude such a scenario, ordering this character such that a small fovea is intermediate between the absent and large states, was explored as a reasonable option. A search enforcing this ordering results in the disappearance of clade 'B' (not shown), which becomes paraphyletic with respect to a similarly resolved clade 'A'. One initially distinctive character state was the expansion of the anterior and posterior incisions of the trichome disc such that the disc is variably undercut by the trichome fringe on the epipleural surface. This is not resolved as a synapomorphy here, but is reconstructed as the basal state for *Chlamydonia*, then lost on the branch between *C. tjibaoui* and the remainder of clade 'A', the trichome becoming thus simplified. While, again, there is no legitimate reason to exclude this possibility, it is somewhat surprising. Moving *C. tjibaoui* to the base of clade 'B' (essentially rooting the ingroup tree at a different point), treating this character as irreversible, results in a tree one step longer.

One somewhat unsettling point to highlight is that only one of the *Chlamydonia* described here is represented by both sexes (*C. angulata*). Given the remarkable sexual dimorphisms recently uncovered in Australian *Chlamydopsis* (Caterino, 2003), it might immediately be suggested that many of the species described here represent different sexes of the same species. In addition, some of the morphological diversity described here does correspond to sexual differences known in *Chlamydopsis*, mainly the distinct elytral textures; in many species of *Chlamydopsis*, the males' elytra are strongly textured while the females' are smooth. However, in the present situation, sexual dimorphism is unlikely for several reasons, and at least cannot apply to most of the taxa here. First, in *C. angulata* the single male and female specimens are essentially identical in external morphology. Second, it's clear that males are more commonly collected than females. Males are known for 13 species, while females are known for 6. The distinctive forms which might be expected consistently to represent one sex, those with impunctate elytra, represent both sexes (though three of these four are female). A more likely explanation of the biased samples may lie in differing dispersal tendencies of the sexes. Of the species known from females, 3 of the 6 were taken by substrate sampling (either by litter sifting or by pyrethrum fogging). These were not flying. All male specimens, on the other hand, were taken in flight intercception traps.

Though lacking specific information on hosts, a significant possible threat to these probable myrmecophiles should be mentioned. An introduced ant, *Wasmannia auropunctata* (Roger) (also known as the 'little fire ant', 'tramp ant', or 'fourmi electique') is now widespread in New Caledonia. This aggressive species has been documented to displace native ant species in many areas (Clark et al., 1982; Armbrecht & Ulloa-Chacón, 2003), and is having similar effects in New Caledonia (Le Breton et al., 2003). This

TABLE 1. Characters

1. Frons, outline. *1.* lateral margins rounded, without lateral marginal stria, outline distinctly interrupted at antennal insertions (Figs 7B, 8A); *2.* margins straight, usually parallel (sometimes slightly convergent) and with marginal stria, outline not markedly interrupted by antennal insertions.
2. Frons, surface. *1.* more or less flat, without prominent tubercles; *2.* with one or more pairs frontal tubercles (Fig. 8A).
3. Mentum. *1.* a flat, external sclerite, basally articulated and separate from prementum (ligula); *2.* not present as a separate sclerite, either fused with submentum or with prementum (Figs 6, 8C). This character is only informative with respect to outgroups (i.e., of taxa included here, state '2' is only seen in *P. magna*).
4. Submentum. *1.* delimited posteriorly by sutures which diverge from median gular suture; *2.* indistinguishably fused with head; gular sutures ending freely or absent (Figs 6, 8C). Similar to above, this character varies only among outgroups, with *Chlamydonia* and *Kanakopsis* both exhibiting state '2'.
5. Labial palpus. *1.* with three palpomeres; *2.* with two palpomeres. The plesiomorphic labial palpus clearly comprises 3 palpomeres. This has been reduced to two in Pheidoliphila and related genera. A minute third (basalmost) palpomere is present in *Chlamydonia* and *Kanakopsis*.
6. Maxillary palpus. *1.* with four palpomeres; *2.* with three palpomeres. Prior to discovery of these taxa, this reduction in maxillary palpal segmentation had been found in exactly the same taxa as the reduction in labial palpal segmentation (the preceding character), and it was considered that as serial homologues they might not have been been completely independent. However, *Chlamydonia* and *Kanakopsis* show the characters to be evolving independently, showing loss of a maxillary palpomere, but with the basal labial palpomere reduced while still present.
7. Median pronotal projections. *1.* present as simple tubercles at anterior margin; *2.* developed as carinae extending posterad from margin; *3.* present, but otherwise developed (frequently as elaborate processes, in several outgroups); *4.* absent.
8. Lateral pronotal marginal alae. *1.* elevated more strongly than median projections; *2.* elevated less strongly than median projections; *3.* lateral alae absent. These 'alae' represent the lateral, arcuate portions of the anterior pronotal margin, forming the upper margin of the antennal cavities, which are elevated to varying degrees.
9. Posterolateral pronotal tubercles. *1.* absent; *2.* present. In addition to anterior marginal pronotal tubercles, some species exhibit small, discrete tubercles in the posterolateral quadrant of the pronotum.
10. Anterior marginal prosternal stria. *1.* complete; *2.* obsolete, at least at middle.
11. Prosternal/mesosternal junction: *1.* mesosternum projecting, prosternum emarginate; *2.* prosternum posteriorly truncate to rounded, projecting over anterior margin of mesosternum.
12. Scutellum. *1.* easily visible (Fig. 2A); *2.* completely hidden beneath junction of anteromedial elytral corners; *3.* visible within triangular opening between elytral bases, but receded, on a lower plane than elytra (Fig. 2B).
13. Elytron, marginal stria: *1.* continuous around all edges, including along elytral suture; *2.* absent at least for short distance along suture.
14. Accessory epipleural stria. *1.* absent; *2.* present (Fig. 8B).
15. Epipleural pits. *1.* absent; *2.* one or two discrete pits present above apex of accessory epipleural stria.
16. Epipleural surface of trichome disc. *1.* convexity not delimited posteriorly by vertical depression; *2.* convexity of outer surface of trichome delimited posteriorly by vertical depression.

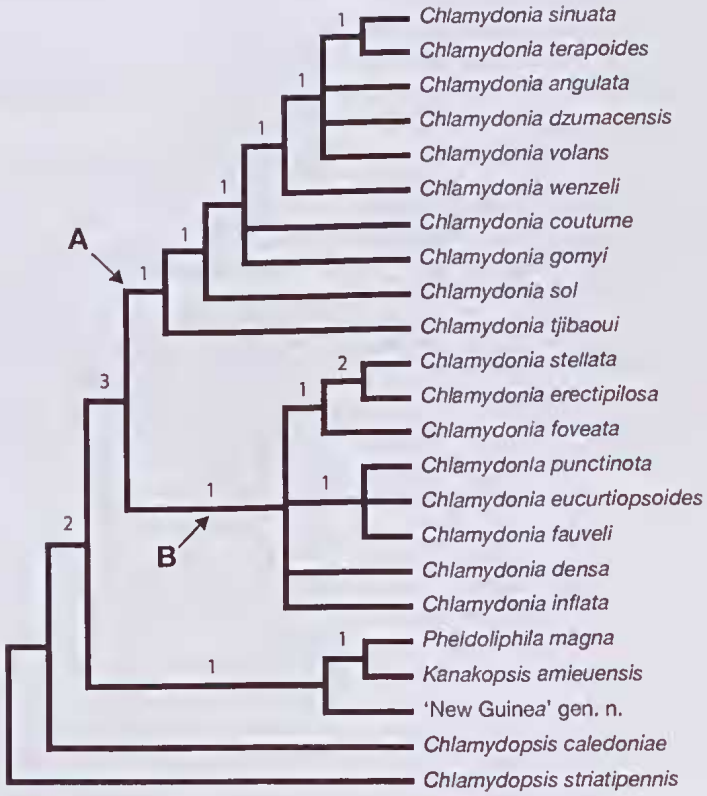
[Note: Trichome morphology is very distinctive in *Chlamydonia*, and homologizing states to outgroups is extremely speculative. Outgroups are thus coded as missing for most of these characters (17-28).]

17. Anterior superficial groove of trichome. *1.* with anterior groove up middle of anterior elevation; *2.* with anterior groove oblique, entering trichome from scutellar corner. This character is only informative with respect to outgroups, as the anterior superficial groove is not observed in any *Chlamydonia*.
18. Anterior basal trichome incision. *1.* narrow, open to epipleuron (Fig. 11); *2.* broadening at bottom, undercutting base of trichome, open to epipleuron (Fig. 17); *3.* closed laterally, ending on dorsum (Fig. 25).
19. Posterior basal trichome incision. *1.* narrow, open to epipleuron (Fig. 11); *2.* broadening at bottom, undercutting base of trichome, open to epipleurnn (Fig. 17); *3.* closed laterally, ending on dorsum (Fig. 25).
20. Posterior basal trichome incision. *1.* with setal fringe continuous from disc around edge of incision to its posterior edge (Fig. 22); *2.* with setal fringe interrupted at (lateral) apex of incision (Fig. 26A). *3.* Setal fringe confined to transverse humeral 'notch'. State three applies only to *Kanakopsis*.
21. Trichome disc, surface curvature. *1.* forming a continuous curve from epipleuron to dorsal part; *2.* curvature interrupted from epipleuron to dorsal portion of disc, usually by a distinct carina. *3.* Trichome not in the form of a disc. State three applies only to *Kanakopsis*.
22. Trichome fringe, extent. *1.* present along entire inner edge of anterior disc (Fig. 10); *2.* present only along posterior portion of anterior disc (Fig. 26). *3.* Trichome not in the form of a disc. State three applies only to *Kanakopsis*.
23. Trichome fringe, projection. *1.* horizontal, directed either mesad, or toward center of trichome; *2.* vertical, erect.
24. Trichome fringe, origins. *1.* single series along edge of trichome disc; *2.* with additional 'bundles' of setae arising from surface of trichome disc parallel to marginal fringe (Fig. 16B).
25. Trichome fringe, length. *1.* short to moderate in length; *2.* long, projecting conspicuously above elytral surface.
26. Trichome, median fovea. *1.* absent (Fig. 28A); *2.* small, a simple pore (Fig. 28B); *3.* larger, confluent with dorsal opening (Fig. 28C).
27. Trichome, posterolateral carina. *1.* absent; *2.* present, ending freely (Fig. 11A); *3.* present, extending to elytral margin (Fig. 21).
28. Trichome, posterior base. *1.* at level of elytral surface (Fig. 11B); *2.* elevated, such that posteromedian carina rises to inner posterior corner of fringe (Fig. 18).
29. Elytral disc, surface texture. *1.* smooth, inpunctate; *2.* densely punctate.
30. Posterior tibia, outer margin. *1.* angulate; *2.* arcuate.
31. Posterior tibia, width. 1. widest about one-third from base; *2.* widest beyond midpoint.

FIG. 29. Strict consensus of 24 equally parsimonious trees. Numbers on branches indicate decay support. Letters indicate clades discussed in text.

TABLE 2. Character state data for *Chlamydonia* and outgroups.

Characters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Chlamydopsis striatipennis	1	1	1	1	1	1	4	1	1	1	1	1	2	1	1	?	1	?	?	?	?	?	?	?	?	?	?	?	2	1	?
Chlamydopsis caledoniae	1	1	1	2	1	1	4	1	1	1	1	1	2	1	1	?	1	?	?	?	?	?	?	?	?	?	?	?	2	2	?
New Genus 'New Guinea'	1	1	1	2	?	?	4	1	1	1	1	2	1	1	1	?	1	?	?	?	?	?	?	?	?	?	?	?	1	2	?
Pheidoliphila magna	2	1	2	2	2	2	3	3	1	1	2	2	1	1	1	?	1	?	?	?	?	?	?	?	?	?	?	?	1	2	?
Kanakopsis amieuensis	1	1	1	2	1	?	4	3	1	1	1	?	1	1	1	?	2	?	?	3	3	3	1	1	1	1	1	2	1	2	1
Chlamydonia sol	1	2	1	2	1	2	1/2	1	1	1	1	3	1	2	1	1	2	1	1	1	1	1	1	1	1	3	2	2	2	2	1
Chlamydonia coutume	1	2	1	2	1	2	1	1	1	1	1	3	1	2	1	1	2	1	1	1	1	1	1	1	1	3	1	1	2	1	1
Chlamydonia gomyi	1	2	1	2	1	2	2	1	2	1	1	3	1	2	1	1	2	1	1	1	2	1	1	1	1	2	2	1	2	1	1
Chlamydonia tjibaoui	1	2	1	2	1	2	2	2	1	1	1	3	1	2	1	1	2	2	2	1	1	1	1	1	1	3	3	2	2	2	1
Chlamydonia foveata	1	2	1	2	1	2	2	1	1	2	1	3	1	2	1	1	2	2	2	1	1	1	2	1	1	2	2	2	2	1	1
Chlamydonia densa	1	2	1	2	1	2	1	1	1	2	1	3	1	2	1	2	2	2	2	1	1	1	1	1	1	1	1	1	2	1	1
Chlamydonia inflata	1	2	1	2	1	2	2	1	2	2	1	3	1	2	1	2	2	2	2	1	1	1	1	1	1	1	1	2	2	2	1
Chlamydonia stellata	1	2	1	2	1	2	1	1	2	2	1	3	1	2	1	1	2	2	2	1	1	1	2	2	2	2	1	1	2	1	1
Chlamydonia erectipilosa	1	2	1	2	1	2	1	1	1	2	1	3	1	2	1	1	2	2	2	1	1	1	2	2	2	2	3	2	1	2	1
Chlamydonia punctinota	1	2	1	2	1	2	1	1	2	2	1	3	1	2	1	2	2	2	2	1	1	1	1	1	1	1	3	2	1	2	1
Chlamydonia eucurtiopsoides	1	2	1	2	1	2	2	1	2	2	1	3	1	2	1	2	2	2	2	1	1	1	1	1	1	1	3	2	1	2	1
Chlamydonia fauveli	1	2	1	2	1	2	1	1	1	2	1	3	1	2	1	2	2	2	2	1	1	1	1	1	1	1	3	2	1	2	1
Chlamydonia angulata	1	2	1	2	1	2	2	1	1	2	1	3	1	2	2	1	2	3	3	2	2	2	1	1	1	3	1	2	2	1	1
Chlamydonia wenzeli	1	2	1	2	1	2	4	1	1	1	1	3	1	2	1	1	2	3	3	1	2	2	2	1	2	3	1	2	2	1	1
Chlamydonia sinuata	1	2	1	2	1	2	1	1	1	1/2	1	3	1	2	1	1	2	3	3	1	2	2	1	1	1	3	1	2	2	2	2
Chlamydonia terapoides	1	2	1	2	1	2	2	1	1	2	1	3	1	2	2	1	2	3	3	1	2	1	1	1	1	3	1	1	2	2	2
Chlamydonia dzumacensis	1	2	1	2	1	2	2	1	1	2	1	3	1	2	1	1	2	3	3	1/2	2	2	1	1	1	3	1	2	2	1	1
Chlamydonia volans	1	2	1	2	1	2	1	1	1	2	1	3	1	2	1	1	2	3	3	2	2	2	1	1	1	3	1	2	2	1	1



highlights a rather urgent need to obtain host data for these beetles in order to effectively assess their potential endangerment.

This paper nearly doubled the known size of the New Caledonian histerid fauna. That these represent the first records of Chlamydopsinae for the island group further illustrates how inadequate our knowledge of terrestrial biodiversity really is, even in areas with a relatively long history of study. Thus the need for additional exploration and intensive taxonomic study is greater than ever, if we hope to document a sizeable fraction of this diversity before it disappears.

ACKNOWLEDGEMENTS

First and foremost I would like to thank Geoff Monteith, for his remarkable dedication to entomological exploration. This study would have been impossible without his contributions. I also thank Tomas Laekner, Slawomir Mazur, and Alexey Tishechkin for providing important specimens, Nicolas Dégallier for his helpful advice on this and related studies, and two anonymous reviewers for helpful suggestions on improving the manuscript. The SEM used in this study was acquired through a National Science Foundation grant (NSF-MRI 0420726), and I thank Daniel Geiger for assistance in its operation. This work was supported in part by the Schlinger Foundation.

LITERATURE CITED

ARMBRECHT, I. & ULLOA-CHACÓN, P. 2003. The little fire ant Wassmania auropunctata (Roger) (Hymenoptera: Formicidae) as a diversity indicator of ants in tropical dry forest fragments of Columbia. Environmental Entomology 32: 542-547.

BREMER, K. 1994. Branch support and tree stability. Cladistics 10: 295-304.

CATERINO, M.S. 2003. New species of Chlamydopsis (Histeridae: Chlamydopsinae), with a review and phylogenetic analysis of all known species. Memoirs of the Queensland Museum 49 (1): 159-235.

CLARK, D.B., GUAYASAMIN, C., MAZAMIO, O., DONOSO, C. & PAEZ DE VILLACIS, Y. 1982. The tramp ant *Wasmannia auropunctata*: autoecology and effects on ant diversity and distribution on Santa Cruz Island, Galapagos. Biotropica 14: 196-207.

DÉGALLIER, N. & CATERINO, M.S. 2005. Notes taxonomiques sur les Chlamydopsinae et descriptions d'espèces nouvelles. – I. Genres *Ceratohister* Reichensperger, *Eucurtiopsis* Silvestri et *Orectoscelis* Lewis. Bulletin de la Société Entomologique de France 110(3): 299-326.

FAUVEL, A. 1891. Les Coléoptères de la Nouvelle-Calédonie et dépendances avec descriptions, notes, et synonymies nouvelles. Revue d'Entomologie 10: 148-182.

GOMY, Y. 1976. Contribution à la connaissance des Histeridae de Nouvelle-Calédonie. Nouvelle Revue d'Entomologie 6: 153-171.

GOMY, Y. 1982. Contribution à la connaissance des Histeridae de Nouvelle-Calédonie (Deuxième note). Nouvelle Revue d'Entomologie. 12: 151-159.

LE BRETON, J., CHAZEAU, J. & JOURDAN, H. 2003. Immediate impacts of invasion by *Wasmannia auropunctata* (Hymenoptera: Formicidae) on native litter ant fauna in a New Caledonian rainforest. Austral Ecology 28: 204-209.

MADDISON, D.R. & MADDISON, W.P. 2003. MacClade 4, version 4.06. Sinauer Associates: Sunderland.

SORENSON, M.D. 1999. TreeRot, version 2. Boston University: Boston.

SWOFFORD, D.L. 2003. PAUP*: Phylogenetic Analysis Using Parsimony, version 4.0b10. Sinauer Associates: Sunderland.

TAYLOR, R.W. 1987. A checklist of the ants of Australia, New Caledonia and New Zealand. CSIRO Australia Division of Entomology Report No. 41: 1-92.

WENZEL, R.L. 1955. The histerid beetles of New Caledonia. Fieldiana, Zoology 37: 601-634 + plates.